

**DRAFT**  
**Historical Study of the**  
**Gowanus Canal**  
Brooklyn, New York



GEI Consultants, Inc.

188 Norwich Avenue  
Colchester, CT 06415  
(860) 537-0751

SUBMITTED TO

**KeySpan Energy, Inc.**

One Metro Tech Center  
Legal Dept. – 21<sup>st</sup> Floor  
Brooklyn, NY 11201-3850

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Dennis F. Unites  
Project Manager

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Lynn E. Willey  
Environmental Scientist/Geologist

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Jamie Jarvis  
Environmental Scientist

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# 1. Introduction

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On behalf of KeySpan Corporation (KeySpan), GEI Consultants, Inc. (GEI) has conducted a study of the industrial and commercial development of the area in the vicinity of the Gowanus Canal located in Brooklyn, New York.

The purpose of the study was to identify current or former industrial or commercial operations that may have impacted the waters or sediments contained within the canal. To this end, this report briefly summarizes the history of the Gowanus Canal and surrounding area; identifies historic land use, potential sources of contamination, and industries in the vicinity of the canal; and summarizes the successors to companies that may have operated in the area.

## 2. Background

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This subsection provides a description of the physical setting, the history of the canal, historic sewage connection information, dredging information and land use for the surrounding area.

### 2.1 Study Area Description

The Gowanus Canal is located in an industrial section of South Brooklyn, New York. Figure 1 summarizes the study area. The residential neighborhoods of Red Hook and Carroll Gardens lie to the west, Boerum Hill is to the north and Park Slope is located to the east of the canal. This 2-mile long man-made canal extends from Butler Street to the southwest past the Gowanus Expressway and into Gowanus Bay. Several barge basins are connected to the main channel at the eastern side of the canal at 7<sup>th</sup> Street, 6<sup>th</sup> Street, 5<sup>th</sup> and 4<sup>th</sup> Streets. The canal is spanned by Hamilton Avenue/Gowanus Expressway at the southern end, 9<sup>th</sup> Street in the middle portion 1, and 3<sup>rd</sup> Street and Carroll Street at the upper end.

#### 2.2.1 Hydrologic Setting

The regional hydrology of the study area is characterized by radial groundwater flow from the west, north, and east towards the canal, which is located in the former Gowanus Creek (Figure 2). The Gowanus Canal drainage basin is approximately 6 square miles (United States Army Corps of Engineers, 2002). The upland reach of the drainage basin is a heavily urbanized residential area while the drainage basin adjacent to the canal is primarily a manufacturing area. The area adjacent to the canal was historically an industrial area. Stormwater and sewage have historically been discharged into the canal. A flushing station located at the head of the canal at Butler Street discharges water from the Buttermilk Channel (East River) in to the canal at an average rate of 200 million gallons a day. The canal is tidal.

The surface waters within the canal are currently classified as SD, saline waters. This designation indicates that because of man-made or natural conditions it cannot attain the requirements for recreation or fish propagation. The best use of the waters is for fishing activities and fish survival.

### 2.3 Gowanus Canal History

Prior to the construction of the canal, the Gowanus section of Brooklyn consisted of the creek, ponds and associated wetlands (Figure 2). As part of the initial development of the area in the mid 1700s, wetlands were drained and the area was developed as farmland. Mills

powered by the flow of the Gowanus Creek were also constructed (Brooklyn Historical Society, 2000). In 1848, New York State authorized funds to construct the Gowanus Canal to eliminate the marshland located within South Brooklyn and to open the area to development (New York City Department of City Planning, 1985). The creek was widened and deepened for one and one half miles from the bay to Butler Street (Brooklyn Historical Society, 2000) (Figure 2). It was widened to approximately 100 feet and was deepened to approximately 5 feet below the low tide mark throughout the entire length of the canal in order to accommodate barge traffic (Richards, 1848). The banks of the canal were created by driving pilings adjacent to each other and securing them with ribs and caps and were tied into the existing bank (Richards, 1848). Excavated materials from the creek were reportedly used as fill behind the walls of the canal (Richards, 1848). By 1869, the Gowanus Canal was depicted as completed with the current street configuration surrounding the canal. The opening of the canal resulted in the rapid commercial, manufacturing, and industrial development of the area. As early as 1869, areas adjacent to the canal were occupied primarily by lumberyards, coal yards, a concrete plant and stone yards along with other industrial development (Dripps, 1869).

The continued expansion of commercial and industrial activities was noted along the canal from the late 1800s into the early 1940s. The canal enabled easy transportation and storage of bulk materials such as coal, petroleum, asphalt, and lumber to support the rapid growth of industry in Brooklyn and surrounding areas. The availability of these raw materials and the access to efficient means of transportation, in turn, one spurred the commercial and manufacturing business adjacent to the canal. The canal continued to be a primary route of transportation for goods and materials until the completion of the Gowanus Expressway in 1951 (New York City Department of City Planning, 1985). The construction of the expressway essentially eliminated the need for the canal to be used for transportation purposes; however, its use for manufacturing and storage remained.

The decline of inner-city industry began in the early 1960s and by the mid 1970s more than half of the properties along the Gowanus Canal were reported as unused and in disrepair (Gowanus Canal Community Development Corporation, 2003). In recent years, the canal is rarely utilized for transportation with only the exception of two fuel oil companies and three concrete processing plants which utilize the canal for the delivery of materials (New York City Department of City Planning, 1985).

## 2.4 Sewers

In addition to a transportation waterway, the canal also served as a receptor for both domestic and industrial discharges through the city sewer system. The city of Brooklyn sewer system was reported constructed in 1857 (Brooklyn Historical Society, 2000). Information regarding the historic and current sewer drainage to the Gowanus Canal has been requested

from the New York City Department of Environmental Protection (NYCDEP); however, this information was not available at the time of this report.

Historic sewer line information presented here was determined from information depicted on 1898 and 1929 Hyde and Company maps of Brooklyn. The Hyde maps depict the size (diameter) of the sewers and their connections. To construct the sewer drainage map showing all lines that enter the Gowanus Canal, all outfalls into the canal were first identified. Sewer trunk lines that extended back from the outfalls leading into sewer laterals that were located within the topographic region of the watershed of the canal were next depicted. The direction of flow was established by assuming that the flow from sewers of smaller diameter went into those of larger diameter. Based upon this analysis, the sewer drainage into the Gowanus Canal was determined to come from two sources: 1) within the former Gowanus Creek marsh area, and 2) the storm sewer lines outside the Gowanus Canal basin. The historic sewer drainage into the Gowanus Canal is presented on Figure 3. Discharges to the canal from inside of the basin were likely sewage from residential dwellings located to the north as well as numerous commercial, manufacturing, and industrial sources located adjacent to the canal. Historical records indicate that outflows were constructed to empty directly into the canal (Brooklyn Historical Society, 2000). In 1888, the State of New York authorized the discharge from a storm sewer into the canal in the vicinity of Butler Street (New York City Department of City Planning, 1985). Figure 4 depicts two large storm sewer lines (180-inch diameter [15 foot] and 42-inch diameter [3.5 foot]) that empty into the northern end of the canal in the vicinity of Butler Street. By the late 1800s, significant water quality issues were identified and the canal was referred to as “Lavender Lake” because of the foul odors and “purple oil sheen” that were commonly encountered on its surface (Brooklyn Historical Society, 2000).

To improve the water quality of the canal, the city constructed a 12-foot diameter flushing tunnel in 1911 (New York City Department of Environmental Protection, 1999). The flushing tunnel system was operated by a ship’s propeller that was reportedly utilized to pull the stagnant waters from the northern end of the canal and discharge them to New York Harbor (Brooklyn Historical Society, 2000). The flushing tunnel was located at the head of the canal at Butler Street and extended to the Buttermilk Channel of New York Harbor. It functioned for fifty years until it was rendered inoperable in 1961. The canal remained stagnant for more than 30 years until the tunnel was reactivated in 1999. It now pumps approximately 200 million gallons a day (average flow) from the Buttermilk Channel into the canal thereby re-establishing the original southerly flow within the canal.

In the mid-1950s the discharge of raw sewage to the Gowanus Canal was diverted by pumping stations to the Buttermilk Channel (East River). However, stormwater and raw sewage from the combined sewer overflows are still discharged into the canal (Brooklyn

Historical Society, 2002). In 1987, the construction of the Red Hook Sewage Treatment plant also decreased sewage input into the canal.

## 2.5 Canal Dredging

Historical and current information on dredging of the Gowanus Canal was reviewed as part of this study. Information regarding current and historic dredging activities within the Gowanus Canal has been requested from the United States Army Corps of Engineers (USACE). Information was provided for the Gowanus Creek channel, which extends from Gowanus Bay as far north as Hamilton Avenue (Gowanus Expressway). This area corresponds to the 1857 bulkhead line established by the Department of War depicted in the 1898 Hyde map. The USACE conducted dredging activities to maintain the shipping channel of the Gowanus Bay to the Gowanus Canal from 1881 through 1954. A 30-foot deep channel that ranged from 500-feet to 200-feet wide was maintained from 28<sup>th</sup> Street to Percival Street and an 18-foot deep channel that ranged from 200-feet wide to 100-feet wide at the terminus of the project at Hamilton Avenue. Records available indicate that maintenance-dredging activity was completed in 1922, 1940, 1954, and 1972.

The USACE does not conduct maintenance dredging of the Gowanus Canal above the Hamilton Avenue crossing. We have assumed that the City has conducted the dredging and we are currently seeking that information.

Incidental dredging of approximately 2,000 cubic yards of sediment from the canal was completed in 1999 that was associated with the reactivating of the flushing tunnel.

## 2.6 Zoning and Current Land-Use

A review of the recent land use in the vicinity the Gowanus Canal was also completed as part of this study. This was completed utilizing available on-line zoning maps prepared by the New York City Planning Commission and the 1996 Sanborn maps. The historical land use of the canal and historical development of the Gowanus Canal neighborhood is evident in the current zoning of the area that surrounds the canal. The area adjacent to the canal is developed within a core industrial/manufacturing area and is surrounded by residential zoned areas. The entire length of the Gowanus Canal is located in a manufacturing district of Brooklyn. The majority of the area adjacent to the canal is zoned heavy industrial (M3-1) from below Hamilton Avenue on either side of the canal and along the small portions of the western edge of the canal below Third Street. The remaining middle and upper portions of the canal are primarily zoned medium manufacturing (M2-1). Numerous industrial use buildings were identified surrounding the canal (Figure 4)

A cursory review of the recent 1996 Sanborn maps for the Gowans Canal area reveal numerous commercial, manufacturing, and industrial land uses. The lower portion of

Gowanus Canal was characterized by heavy commercial and industrial activity that included an asphalt heating plant, an incinerator, numerous warehouses, truck and automobile repair garages, and a metal scrap yard. Two large fuel oil storage facilities, cement companies, a former tile manufacturer, numerous storage and warehouses, and numerous other commercial and manufacturing facilities characterized the middle portion of the Gowanus Canal. The upper Gowanus Canal was characterized by industrial land-use activities and included a large fuel oil facility, automobile repair and auto body shops, and manufacturing facilities. The degree of impacts of these facilities to the canal has not been determined at this time.

## 3. Contaminant Sources

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### 3.1 Methods

This study was completed to evaluate potential current and historical sources of contamination that may have impacted the waters and sediment of the Gowanus Canal. GEI utilized a commercial environmental database review for the canal corridor and reviewed current on-line available databases, and historical records. Environmental Data Resources, Inc. (EDR) provided a standard American Society of Testing and Materials (ASTM) Phase I environmental site assessment (ESA) electronic database report for the canal corridor to identify sites with recent environmental records and sites with existing environmental conditions. Federal and state on-line databases were consulted for discharge permit information.

Historical information regarding the study area was obtained through the review of Sanborn, Hyde, Bromley, and other historic maps. These maps provide descriptions of buildings, tenants operating on the property (land use), and property information dating back to the late 1800s. They were available for various years through 1996. Similar maps produced by the Hyde Map Company and the Bromley Map Company were reviewed for supplemental information for the years 1880, 1893, 1898, and 1929. Other historical maps from 1869 were reviewed for similar information regarding property ownership.

Additionally, corporate histories of selected companies operating in the canal area were researched using Moody's Public Utility Manual and Moody's Industrial Manual. The following sections provide: sites with current environmental records or conditions that could impact the canal, sites with historical tenants or land-use that could have impacted the Gowanus Canal, and a discussion of the possible successor companies to the tenants along the canal.

### 3.2 Sites with Existing Environmental Records or Environmental Conditions

GEI evaluated sites that have existing environmental records or conditions along the Gowanus Canal and vicinity. This was completed by obtaining an environmental database search for the Gowanus Canal study area. GEI established a corridor search area of approximately three to eight city-blocks surrounding the Gowanus Canal which encompassed the current manufacturing-zoned area and portions of the residential zoned areas that surround the canal. The environmental database search was completed in accordance with ASTM standards for a Phase I ESA. The environmental search supplied geographically

coded information for sites with existing environmental conditions and/or available regulatory information dating from the mid-1980s to the present.

The search revealed 276 listings of sites having some type of federally or state regulatory involvement. Many of these were multiple listings at a given location. Each location was placed into one of seven general categories. They are:

1. Federally listed sites [includes waste handling sites [Treatment, Storage and Disposal Facilities (TSDF) and Resource Conservation Recovery Act (RCRA) Large Quantity Generators (LQG); sites with documented releases [Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS), and Toxic Release Inventory (TRI)]; other federal program regulated sites [RCRA Corrective Action (CORRACTS)]: RCRA Administrative Tracking System (RAATS), and Hazardous Materials Reporting System (HMIRS)], and New York State Department of Environmental Protection (NYSDEC) voluntary cleanup sites and registered solid waste landfill facilities
2. RCRA listed small quantity generators (SQG)
3. Major oil storage facility (NYSDEC MOSF) listed sites
4. Minor petroleum storage [NYSDEC listed underground storage tanks (UST), aboveground storage tank (AST), and leaking UST incident (LUST)] listed sites
5. NYSDEC Spill Incident listed sites (SPILLS)
6. Current Federal (National Pollutant Discharge Elimination Systems [NPDES]), and New York State (State Pollutant Discharge Elimination Systems [SPDES]) listed discharge permits
7. Multiple-use site for sites listed in two or more categories listed above

Plate 1 provides a summary of this information. Heavier weighting of sites to the potentially larger/re-occurring sources of contamination was completed by adding darker colored shading to each of the following five groups:

1. Federally listed sites with potential large quantities waste handling, sites with known releases, or federal program site and NYSDEC listed voluntary cleanup or solid waste landfill facilities were emphasized because potentially large quantities of waste or known environmental conditions exist at the sites. The category is referred to as TSD/CORRACTS/VCP/LQG on Plate 1.
2. Major oil storage (NYSDEC MOSF) listed sites. A heavier emphasis was added because of storage of large quantities of petroleum was noted.
3. Current NPDES and SPDES discharge permits. Listed discharge permits were emphasized because they are dischargers of wastewater to the canal.
4. Multi-listed sites.

Plate 1 provides a summary of this information. Numerous sites were also noted within the boundaries of the current Gowanus Canal drainage basin. These releases could potentially impact the groundwater within the drainage basin that ultimately discharges to the Gowanus Canal (Plate 1).

Based upon historic drainage information and available zoning information, the EDR environmental database listings were subsequently summarized into sites that were located within the portion of the former Gowanus Canal drainage basin that was serviced by the city sewer system through the mid-1950s and periodically, thereafter, during peak flows. The proximity of these potential contaminant release areas to the canal and unknown sewer connection histories make these sites of high environmental concern.

The results of the EDR search revealed the following number of listed sites for the former Gowanus Canal sewer drainage basin broken out into federally listed sites and state listed sites. Table 1 provides a summary of sites within the portion of the Gowanus Canal serviced by the city sewer system. Plate 1 depicts the locations of these types of sites. A summary of each of the listed categories is summarized below:

#### **Federally Listed Sites: Gowanus Canal (Within the Sewered Area)**

- Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS): 1 listed site
- Resource Conservation Recovery Act (RCRA) Corrective Action (CORRACTS): 2 listed sites
- RCRA-Treatment, Storage, and Disposal Facility (TSD): 1 listed site
- RCRA-Large Quantity Generators (LQG): 4 listed sites
- RCRA-Small Quantity Generators (SQG): 84 listed sites
- Toxic Chemical Release Inventory System (TRIS): 1 listed site
- Facility Index System/Facility Identification Initiative Program Summary Report (FINDS) [Contains information and references to other federal lists for a facility]: 87 listings
- Federal Insecticide, Fungicide, & Rodenticide Act/Toxic Substances Control Act (FTTS) [Contains information regarding sites that produce pesticides to report quantities produced and sold]: 1 listed site

No listings were encountered for the Hazardous Materials Reporting System (HMIRS) [which reports spill information reported to the Department of Transportation (DOT) and RCRA Administrative Tracking System (RAATS) [which contains information regarding RCRA enforcement actions for major violations] within the Gowanus Canal sewered area; however, these two categories were listed within the Gowanus Creek drainage basin.

## State of New York Listed Sites: Gowanus Canal (Within the Sewered Area)

- New York State Department of Conservation (NYSDEC) Solid Waste Facilities/Landfill: 9 listed sites
- NYSDEC Leaking Underground Storage Tank Incident (LUST): 61 listed sites
- NYSDEC Petroleum Bulk Storage Underground Storage Tank (UST): 64 listed sites
- NYSDEC Chemical Bulk Storage UST (UST): 3 listed sites
- NYSDEC Major Oil Storage Facilities (MOSF) UST: 3 listed sites
- NYSDEC Solid Waste Recycling Facility List: 1 listed sites
- NYSDEC Aboveground Storage Tank (AST): 18 listed sites
- NYSDEC Chemical Bulk Storage AST: 2 listed sites
- NYSDEC MOSF AST: 2 listed sites
- NYSDEC Spills Incident: 58 listed sites

No listings for the NYSDEC Voluntary Cleanup Agreements (VCP) were encountered within the sewer drainage area for the site.

This is a cursory summary based upon the EDR site listings of the potential larger contributors of the study because they are suspected of handling larger quantities of waste, petroleum or chemicals, and will be discussed in three geographic sections of the Gowanus Canal:

1. Lower Gowanus Canal (mouth to 12<sup>th</sup> Street)
2. Middle Gowanus Canal (12<sup>th</sup> to 3<sup>rd</sup> Street)
3. Upper Gowanus Canal (above 3<sup>rd</sup> Street)

A summary of the database site number, potential major contributor to contamination, likely associated land-use, and likely associated chemical storage are listed below for each section of the canal.

**Potential Contributors of Contamination - Lower Gowanus Canal**

Map #	Major Contributor	Land Use	Notes
236	Amerada Hess Corporation	Bulk Petroleum Storage Terminal	Bulk petroleum storage terminal; numerous ASTs; leaking underground storage tank incident; (numerous spills reported), active discharge to canal
230	WITCO Corporation.	Chemical Manufacturing	RCRIS-LQG, RCRIS-SQG; CBS-UST, CBS-AST, (spills reported)
219	First Brooklyn	Transfer station	Listed landfill

Map #	Major Contributor	Land Use	Notes
	Transfer Station		
205	Mobile Oil Corporation	Gasoline Service Station	RCRA-SCG, leaking underground storage tank
239	NYCDOS	Landfill	List solid waste/landfill
240	New York City	Asphalt plant, Incinerator	CERCLIS, RCRA SQG
259	Debevoise Company; Division of PLC Incorporated	Paint Factory	TSD, CORRACTS
277	Consolidated Edison Company	Power Generator Plant	Active power generating facility and discharge facility

**Potential Contributors to Contamination - Middle Gowanus Canal**

Map #	Major Contributor	Land Use	Notes
195	Bayside Fuel Oil Depot	Petroleum storage depot	Bulk petroleum storage, MOSF UST, RCRIS-SQG, MOSF-AST, FTTS
279	Universal Fixture Corporation	Wastewater	Active discharge facility
280	S&S Water Company	Scrap metal	Possible petroleum handling; NPDES permit

**Potential Major Contributors to Contamination - Upper Gowanus Canal**

Map #	Major Contributor	Land Use	Notes
145	Red Hook Terminal	Chemical/petroleum storage	Chemical/petroleum storage chemical spills
125	Bayside Fuel Oil Depot Corp.	Petroleum storage terminal	Petroleum storage
109	Baltic Recycling	Transfer station	Possible petroleum storage

The companies listed above were identified as likely potential major sources of contamination to the Gowanus Canal. Additional companies with listings of environmental concern are listed on Figures 5 and 6. As summarized on Plate 1 and Table 1, numerous potential major contributors and smaller listed sites are located in the vicinity of the Gowanus Canal and within the canal drainage basin. The degree of impacts from these sites to the Gowanus Canal are unknown.

### 3.3 Historical Operations of Environmental Concern

As part of this study, historical information regarding potential operations of environmental concern was also assessed through the review of Sanborn, Hyde, and Bromley maps as well as other historical sources. These maps were reviewed and information was collected for properties in close vicinity of the Gowanus Canal. These maps also provide descriptions of buildings, tenants operating on the property (land use), and property information dating back to the late 1860s and were available for selected years through 1996. Information that was collected from the historical maps included the former company names, former business operations, and the potential business operations that involved the historical storage of petroleum and/or chemicals, and the approximate years of operation.

During this review of the maps, numerous historic business operations were identified that may potentially have had operations of environmental concern in close vicinity of the canal. To better classify the occurrence of these historical operations of environmental concern, five groups of sites were created: petroleum, chemical, manufacturing, coal yards, and multi-use sites.

- Petroleum sites are historical sites with bulk petroleum storage. Examples of these are primarily bulk oil storage operations that historically operated along the canal. These historic operations may have potentially discharged petroleum into the canal through transportation operations, product handling activities and discharges from primary storage facilities. Petroleum typically contains organic contaminants [volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs)].
- Chemical manufacturing sites were sites where chemicals were manufactured or were likely handled as part of historic business operations. Examples of these include asphalt plants, coal tar handling companies, fertilizer and chemical plants, laboratories, paint factories, printing companies and dye works. These historic operations may have potentially discharged organic or inorganic wastes into the canal.
- Manufacturing site designation includes sites where manufacturing and commercial activities occurred. Examples of these sites included factories, former automobile repair garages, machine shops, tile manufacturers and other commercial activities where petroleum, chemicals, or other types of wastes may have been produced and may have been discharged into the Gowanus Canal.
- The coal yard site designation consisted of sites where historic operations included properties where coal yards and coal storage were encountered. Coal yards were included because of the numerous historic coal yard operations along the entire length

of the Gowanus Canal and because coal pile runoff can potentially contain elevated amounts of heavy metals and PAHs.

- The multi-use site designation was used to characterize historic sites where more than one of the previously listed historic sites uses occurred.

A summary of these sites and their distribution along the Gowanus Canal is presented on Plate 1.

To further evaluate the distribution of the historic operations of environmental concern, six groups of historic operations were created: 1) coal yards, 2) historic/recent asphalt plants and coal tar companies, 3) historic/recent oil and petroleum companies, 4) historic recent chemical, paint, fertilizer and plastic manufacturers, 5) historic/recent manufacturing facilities, and 6) historic rail transportation facilities. Each of these groups are depicted on Figures 7 through Figure 11 with the exception of the historic rail transportation facilities. Tables 2 through 7 summarize the years of operation for each of the six groups. Based upon the location of these operations and historic sewer drainage information, these historic site operations may have potentially discharged contaminants to the Gowanus Canal.

- Forty-seven historic coal yards operated along the entire length of the Gowanus Canal from the time that it was completed in the late 1860's through the late 1960s. Figure 7 depicts the location of each of the coal yards and Table 2 provides operational information for each of the coal yards listed. Historic runoff from coal stockpiles potentially discharged into the canal through direct runoff or through the sewer system that historically discharged to the canal. Elevated levels of PAHs and various heavy metals have likely been discharged into the canal over approximately 100 years of coal storage along the canal.
- Numerous asphalt and coal tar products companies were historically noted along the central and lower portions of the canal. Seventeen sites were noted along the canal that operated as early as 1886 through the present. Figure 8 depicts the locations of each of the previous asphalt and coal tar products companies. Table 3 provides operational information for each of the companies listed. Historic manufacturing of coal tar related products and asphalt manufacturing/storage potentially discharged wastes and impacted runoff into the canal. These wastes may contain elevated levels of organic chemicals including PAHs.
- Eleven bulk oil storage facilities or oil works were identified as operating along the entire length of the canal from as early as 1880 through recent times. Figure 9 depicts the locations of each of the previous oil/petroleum companies. Table 4 provides operational information for each of the companies listed. The transport, storage and

transfer of oils at these sites may have released petroleum products to the canal for the past 120 years. Most petroleum products that contain organic compounds (including PAHs). As discussed in Section 3.1, numerous recorded spills and large quantity of petroleum storage documented along the canal, which is likely the case in the past.

- Thirty-seven chemical, paint, fertilizer, and plastic manufacturing facilities were noted along entire length of the canal from as early as the 1860s to the present date. Figure 10 depicts the locations of each of the previous paint, fertilizer, and plastic manufacturing companies. Table 5 provides operational information for each of the companies listed. Based upon the limited information listed on historic maps, potential wastes from these historic operations would have historically discharged to the canal through sewer lines. Typical wastes associated with these operations include organic and inorganic chemicals.
- Forty-five manufacturing facilities were noted along the entire length of the canal from 1886 through the recent years. Figure 11 depicts the locations of each of the previous manufacturing companies. Table 6 provides operational information for each of the companies listed. Potential wastes from these operations typically include organic and inorganic wastes (metals) that may have been discharged to the canal through sewer lines.
- Two instances of incinerators and city dumping platforms were indicated as operated by the City of New York were noted along the canal. Typical wastes associated these types of operations could include organic, inorganic contaminants as well as potentially dioxins (incinerators). These wastes could have been discharged to the canal through runoff, direct dumping, and associated wastewaters.
- Four instances of power plants, substations, and/or railroad repair yards have operated along the canal from as early as 1886 through recent years. These sites are summarized on Table 7. Typical wastes associated with these operations include waste oils, hydraulic fluids, PCBs, and historic fuel storage which typically organic contaminants, which could have historically been discharged into the canal through runoff or direct discharge through the sewer system.

A final source of contaminants to the canal is urban runoff. Studies have documented that PAHs are common in urban runoff.

### **3.4 Potential List of Successor Companies to Historical Site Operations on the Gowanus Canal**

As part of the review of historic sites, current operating successor companies to the historic companies that operated along the Gowanus Canal were researched. Company information and approximate years of operation were obtained from Sanborn, Hyde and other historic maps. The history of companies identified from Sanborn maps were researched using Moody's Public Utility Manual and Moody's Industrial Manual for selected years from the early 1900s through 1994. Moody's Manuals provide financial and corporate history information for publicly held companies. The Moody's Manuals were used to determine if companies identified on the Sanborn Maps could be traced to companies that are currently operating. The review is limited by the fact that Moody's does not necessarily provide information regarding the nature of the acquisition and that information is available only for publicly traded companies. Figure 7 through Figure 12 summarize the locations of the former operations along the Gowanus Canal for the following five categories: 1) historic coal yards, 2) historic/recent asphalt and coal tar product companies, 3) historic/recent oil and petroleum companies, 4) historic/recent chemical, paint, fertilizer, and plastic manufactures and 5) historic/recent manufacturing facilities with the successors to historically listed companies. Figure 13 through Figure 15 summarize the historical companies and their approximate operational time line for each of the first five categories listed above. Based upon available information obtained from Moody's, current predecessors companies to historic operations were investigated and presented for the five of the categories listed above. Figures 16 through Figure 18 documents the corporate histories of successor companies that have historically operated along the canal.

## 4. Conclusions

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The Gowanus Canal was originally established to open the South Brooklyn area to commercial development and to rid the area of marshland. The canal has served as a major transportation route for the area for well over 100 years. Access to the canal enabled the rapid commercial and industrial development of the area surrounding the canal. In addition, the canal has also historically received discharges of sewage and stormwater throughout its history. Based upon current regulatory information, numerous sites were encountered with environmental records and existing environmental conditions that may potentially impact the canal. A review of historical information revealed extensive commercial, manufacturing and industrial activities from the late 1860s through the present. The historic waste-handling practices of these companies are unknown. Based upon historic drainage information, it is likely that wastes from these companies were discharged into the canal. Current successor companies have been identified to historic companies that operated along the canal.

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# Tables

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<b>Table 1</b> <b>Gowanus Canal Environmental Database Summary</b> <b>Brooklyn, New York</b>			
Map ID Number	Database Listing	Company Name/Location	Street Address
4	Leaking UST Incident	Private Dwelling	86 Pierrepont Street
6	Facility Register-LF	Babylon Methane Recovery	166 Montague Street
10	Leaking UST Incident/Petroleum Bulk Storage (PBS) Database-UST	Private Dwelling	141 Remsen Street/ 150 Remsen Street
12	Leaking UST Incident/Leaking UST Incident	Apartment Building	26 Court Street/32 Court Street
	Leaking UST Incident	Apartment Building	32 Court Street
	Petroleum Bulk Storage (PBS) Database-UST	St Francis College	180 Remsen Street
		Philips International Holding Corp.	175 Remsen Street
		26 Court Street Associates, LLC	26 Court Street, Suite 300
		Municipal Building	208-242 Joralemon Street
13	RCRIS-SQG, FINDS	St. Francis College	180 Remsen Street
	RCRIS-SQG, FINDS	New York City Department of General Services	210 Joralemon Street
	Petroleum Bulk Storage (PBS) Database-UST	Packer Collegiate Institute	170 Joralemon Street
	Petroleum Bulk Storage (PBS) Database-UST	138 Joralemon Street Realty Company (Apartment Building)	138 Joralemon Street
	Petroleum Bulk Storage (PBS) Database-UST	150 Joralemon Street Equity Management	150 Joralemon Street
15	RCRIS-SQG, FINDS	D & J Cleaners	107 Clinton Street
	RCRIS-SQG, FINDS	Packer Collegiate Institute	170 Joralemon Street
	Leaking UST Incident	NYCTA	Pearl Street
	Leaking UST Incident	NYCTA	Pearl Street
	Leaking UST Incident	Board of Education Transportation Garage	409 Red Hook Lane
	Leaking UST Incident	408 Jay/1427 Fulton	1427 Fulton/408 Jay Street
	Petroleum Bulk Storage (PBS) Database-UST	Brooklyn Friends School	375 Pearl Street
	Petroleum Bulk Storage (PBS) Database-UST	25 Willoughby Street Realty	25 Willoughby Street
	Petroleum Bulk Storage (PBS) Database-UST	Board of Education Transportation Garage	409 Red Hook Lane
	RCRIS-SQG, FINDS	Board of Education Transportation Garage	409 Red Hook Lane
17	RCRIS-SQG, FINDS	A D T Security Systems	57 Willoughby Street - Room W37
	RCRIS-SQG, FINDS	Boro Hall Academy	17 Smith Street
	Petroleum Bulk Storage (PBS) Database-UST	Brooklyn Law school	250 Joralemon Street
	Petroleum Bulk Storage (PBS) Database-UST	Church of St. Charles Borromeo	17 Aitken Place
23	Petroleum Bulk Storage (PBS) Database-UST	Dimitrious Kaloidis	54 Livingston Street
24	Leaking UST Incident	86 Livingston Street	86 Livingston Street
	Petroleum Bulk Storage (PBS) Database-UST	Brooklyn Savings and Loan	81 Court Street
	Petroleum Bulk Storage (PBS) Database-UST	Heights 75 Owners Corporation (Apartment Building)	75 Livingston Street
	Petroleum Bulk Storage-AST, Petroleum Bulk Storage (PBS) Database-UST	Board of Education	65 Court Street
27	Leaking UST Incident	MPM Realty Corporatiao	141 Livingston Street
	Leaking UST Incident	New York Telephone	111 Livingston Street
	Leaking UST Incident	New York Telephone	111 Livingston Street
	Leaking UST Incident	Brooklyn Central Court Building	120 Schermerhon Street
	New York SPILLS	Con Ed Vault #V130	141 Livingston Street
	New York SPILLS	Con Ed Manhole V3145	141 Livingston Street
	New York SPILLS	Con Ed Manhole V509	141 Livingston Street
	New York SPILLS	Con Ed Vault #V1123	141 Livingston Street
	New York SPILLS	Brooklyn Central Court Building	120 Schermerhon Street
	Petroleum Bulk Storage (PBS) Database-UST	Brooklyn Central Court Building	120 Schermerhon Street
	Petroleum Bulk Storage (PBS) Database-UST	Brooklyn Central Court Building	120 Schermerhon Street
	Petroleum Bulk Storage (PBS) Database-UST, Leaking UST Incident	NYNEX	111 Livingston Street
	Petroleum Bulk Storage-AST, Petroleum Bulk Storage (PBS) Database-UST	Livingston Plaza	130 Livingston Street
	Petroleum Bulk Storage-AST, Petroleum Bulk Storage (PBS) Database-UST	Livingston Aquisitions, LLC (Office Building)	141 Livingston Street
	RCRIS-SQG, FINDS	New York City Board of Education - Headquarters	110 Livingston Street
	RCRIS-SQG, FINDS	New York Telephone Company	111 Livingston Street
30	RCRIS-SQG, FINDS	Brooklyn Central Court Building	120 Schermerhon Street
	FINDS	Court Valet Services Inc.	118 Court Street
	FINDS	Panda Wallcovering	118 Court Street
	Leaking UST Incident	Independence Savings Bank	130 Court Street
	New York SPILLS	Con Edison Manhole 1695	Court Street/Schermerhon Street
	New York SPILLS	Con Edoson Manhole 1660	State Street/Court Street
	Petroleum Bulk Storage-AST, Petroleum Bulk Storage (PBS) Database-UST	Independence Savings Bank	130 Court Street
	RCRIS-LQG, FINDS	94-110 Court Street, LLC	94-110 Court Street
31	RCRIS-SQG, FINDS	Court Valet Services Inc.	118 Court Street
	RCRIS-SQG, FINDS	Macy's	422 Fulton Street

<b>Table 1 (continued)</b> <b>Gowanus Canal Environmental Database Summary</b> <b>Brooklyn, New York</b>			
Map ID Number	Database Listing	Company Name/Location	Street Address
32	Petroleum Bulk Storage (PBS) Database-UST	Boerum Court Owners, Inc.	96 Schermerhorn Street
	Petroleum Bulk Storage-AST, Petroleum Bulk	Ryder Student Trans Services	401A Halcyon Road
33	Petroleum Bulk Storage (PBS) Database-UST	Apartment Building	200 Clinton Street
	Petroleum Bulk Storage-AST	Clinton House Furn (Retail Sales)	168 Atlantic Avenue
	Petroleum Bulk Storage-AST	Apartment Building	214 Clinton Street
	RCRIS-SQG, FINDS	Clinton Hills Cleaners	191 Clinton Street
36	New York SPILLS	Con Edison	Gelliton Place/Livingston Street
	New York SPILLS	Con Edison	Galletson Place/Livingston
37	Leaking UST Incident	Amaco Gas Station	240 Atlantic Avenue
	Leaking UST Incident	College Garage	205 State Street
	Leaking UST Incident, New York SPILLS	Mobil Station	252 Atlantic Avenue
	New York SPILLS	Mobil Station	252 Atlantic Avenue
	New York SPILLS	Mobil Station	252 Atlantic Avenue
	New York SPILLS	Mobil Station	252 Atlantic Avenue
	Petroleum Bulk Storage (PBS) Database-UST, RCRIS-SQG, FINDS	Mobil Station	252 Atlantic Avenue
	Petroleum Bulk Storage-AST, Petroleum Bulk Storage (PBS) Database-UST, New York SPILLS, RCRIS-SQG, FINDS	Gulf Service Station No. 120975	240 Atlantic Avenue
39	Leaking UST Incident	New York City Welfare Facility	210 Livingston Street
	New York SPILLS	Con Edison Manhole 2880	Livingston Street/Hoyt Street
	New York SPILLS	Con Edison Manhole 2880	Livingston Street/Hoyt Street
	Petroleum Bulk Storage (PBS) Database-UST	New York City Welfare Facility	210 Livingston Street
40	New York SPILLS	Con Edison	State Street/Smith Street
	New York Spills	Con Edison Greenwood Substation	258-23 Street
	New York Spills	Con Edison	State Street/Smith Street
	New York Spills	Con Edison Greenwood Substation	258-23 Street
	New York Spills	Con Edison	Smith Street/Atlantic Avenue
	RCRIS-SQG, FINDS	NYCTA - State Street Substation	E. Side of Smith and State Street
43	Petroleum Bulk Storage-AST, Petroleum Bulk Storage (PBS) Database-UST	Brooklyn House of Detention	275 Atlantic Avenue
	RCRIS-SQG, FINDS	Brooklyn House of Detention	275 Atlantic Avenue
47	New York Spills	Private Dwelling	162 Court Street
48	New York Spills	Private Lot	338 State Street East of Hoyt
	RCRIS-SQG, FINDS	Fabricare plus	350 State Street
50	New York Spills	Manhole 1674	Smith Street/Pacific Street
	New York Spills	Manhole 1674	Pacific Street at Smith
	New York Spills	The Cleaning Store	131 Smith Street
	New York Spills	Manhole	Smith/Dean Street
	RCRIS-SQG, FINDS	Smith Cleaners	109 Smith Street
	RCRIS-SQG, FINDS	The Cleaning Store	131 Smith Street
	RCRIS-SQG, FINDS	NYCTA - Bergen Street Station	Bergen and Smith Streets
54	New York Spills	Manhole #14686	Atlantic Avenue/Hoyt Street
	RCRIS-SQG, FINDS	Cleaners Club	356 Atlantic Avenue
56	RCRIS-SQG, FINDS	NYC Board of Ed - Public School 261	314 Pacific Street
58	Petroleum Bulk Storage (PBS) Database-UST	Icco Cheese Company Inc.	25 Bergen Street
65	Leaking UST Incident	122 Hoyt Street	122 Hoyt Street
	Petroleum Bulk Storage (PBS) Database-UST	Bishop Mugavero Center - Geriatric Care Inc.	155 Dean Street
	Petroleum Bulk Storage (PBS) Database-UST, RCRIS-SQG, FINDS	Hospital of the Holy Family	151-156 Dean Street
68	RCRIS-SQG	The Cleaning Place	157 Smith Street
	RCRIS-SQG, FINDS	Drouvalakis Sophie	157 Smith Street
69	RCRIS-SQG, FINDS	Rainbow Dry Cleaners	391 Pacific Street
70	Leaking UST Incident	Baerenklu Oil Company	438-440 Atlantic Avenue
71	RCRIS-SQG, FINDS	Trusting Dry Cleaners	232 Court Street
	RCRIS-SQG, FINDS	Cobble Hill Cleaners	244-46 Court Street
73	Petroleum Bulk Storage (PBS) Database-UST	Amoco Service Station	98 Third Avenue
	Petroleum Bulk Storage (PBS) Database-UST	Amoco Service Station	98 Third Avenue
	Petroleum Bulk Storage (PBS) Database-UST	NYC Housing Authority	572 Warren Street
	Petroleum Bulk Storage (PBS) Database-UST	160 3rd Avenue	160 3rd Avenue
	Petroleum Bulk Storage (PBS) Database-UST	Dicent Service Station, Inc.	169 Third Avenue
	RCRIS-SQG, FINDS	Amoco Service Station	98 3rd Avenue
	RCRIS-SQG, FINDS	Sarah Hale School	3rd & Pacific Avenue
	RCRIS-SQG, FINDS	Belt Cleaners	92-17 3rd Avenue
	RCRIS-SQG, FINDS	Triple One Cleaners, Inc.	111 Third Avenue
	RCRIS-SQG, FINDS	Chips Cleaners	159 Third Avenue
	RCRIS-SQG, FINDS	New York City Department of Sanitation - YWCA	30 3rd Avenue
	RCRIS-SQG, FINDS	Royal French Cleaners	68-32 3rd Avenue

<b>Table 1 (continued)</b> <b>Gowanus Canal Environmental Database Summary</b> <b>Brooklyn, New York</b>			
Map ID Number	Database Listing	Company Name/Location	Street Address
73	RCRIS-SQG, FINDS	A & R Cleaners	74-15 3rd Avenue
	RCRIS-SQG, FINDS	Bay Ridge Cleaners	71-01 3rd Avenue
	RCRIS-SQG, FINDS	New York City Board of Education - Sara Jane High School	3rd Avenue and Dean Street
	RCRIS-SQG, FINDS	98 Third Avenue Service Station Inc.	98-100 3rd Avenue
	RCRIS-SQG, FINDS	Fashion Dry Cleaners	118 3rd Avenue
	RCRIS-SQG, FINDS	NYC Housing Authority	130 3rd Avenue
	RCRIS-SQG, FINDS	Hattan House Cleaners	145 Third Avenue
75	New York Spills	Three Stars Contracting, Inc.	479 Atlantic Avenue
	Petroleum Bulk Storage (PBS) Database-UST	Continental General Tire Inc.	472 Atlantic Avenue
	RCRIS-SQG, FINDS	Continental General Tire Inc.	472 Atlantic Avenue
	RCRIS-SQG, FINDS	Three Stars Contracting, Inc.	479 Atlantic Avenue
76	Leaking UST Incident	Board of Education IS 293	284 Baltic Street
78	Petroleum Bulk Storage (PBS) Database-UST	New York City Board of Education - Public School 38 K	450 Pacific Street
	Petroleum Bulk Storage (PBS) Database-UST	Martin-Brower Company	65 Leone Lane Chester Industrial Park
	RCRIS-SQG, FINDS	New York City Board of Ed - Public School 38 K	450 Pacific Street
85	New York Spills	City Sewer System	291 Court Street
	RCRIS-SQG, FINDS	Noble Cleaners	284 Court Street
88	New York Spills	Merit Oil Company	132 Flatbush Avenue
	Petroleum Bulk Storage (PBS) Database-UST	Brooklyn Public Library	25 4th Avenue
	RCRIS-SQG, FINDS	NYCTA - Pacific Street Station	Pacific Street and Fourth Avenue
89	New York Spills	Atlantic/Flatbush Avenues	Atlantic Avenue/Flatbush Avenue
	New York Spills	Manhole 60650	Flatbush Avenue/Atlantic Avenue
	RCRIS-SQG	MTA NYCT - Atlantic Avenue Complex	Atlantic Avenue and Flatbush Avenue
	RCRIS-SQG, FINDS	NYCTA - Atlantic Avenue Bulk Storage	Se Cor Flatbush and Atlantic Avenue
	RCRIS-SQG, FINDS	NYCTA - 165 Central Instr. Room	Atlantic Avenue Near Flatbush
91	Leaking UST Incident, RCRIS-SQG, FINDS, TRIS, Petroleum Bulk Storage (PBS) Database-UST	Ulano Corporation	280 Bergen Street
94	Leaking UST Incident	New York City Housing Authority	272 Wyckoff Street
	Leaking UST Incident	New York City Housing Authority	272 Wyckoff Street
	Petroleum Bulk Storage (PBS) Database-UST	New York City Housing Authority	272 Wyckoff Street
96	New York Spills	Daily News	600 Pacific Street
97	Leaking UST Incident	New York City Housing Authority	185 Nevins Street
99	New York Spills	309 Union Street Corporation	262 Union Street
	Petroleum Bulk Storage (PBS) Database-UST	NYSA-ILA Medical Center of Brooklyn	283 Union Street
	Petroleum Bulk Storage (PBS) Database-UST	Metro Fuel Oil Corporation	343 Court Street
102	Leaking UST Incident	Mobil Service Station	185 Flatbush Avenue
	Leaking UST Incident, New York Spills	Mobil Service Station	195 Flatbush Avenue
	Petroleum Bulk Storage (PBS) Database-UST, RCRIS-SQG, FINDS	Mobil Service Station	195 Flatbush Avenue
104	RCRIS-SQG, FINDS	Number One Dry Cleaners	282 Smith Street
107	RCRIS-SQG, FINDS	NYCDOT Bridge Bin 2243200	Union Street Over Franklin
109	Facility Register-LF	Baltic Recycling T.S.	524-26 Baltic Street
110	Petroleum Bulk Storage (PBS) Database-UST	Pine Plains Tractor & Equipment, Inc.	Rte.199 (2786 Church Street)
111	Leaking UST Incident	Empty Lot	90 4th Avenue
	New York Spills	Shell Station	90-01 4th Avenue
	New York Spills	610 Warren Street	610 Warren Street
	RCRIS-SQG, FINDS	Mobil Service Station	89-17 4th Avenue
114	Petroleum Bulk Storage (PBS) Database-UST	West Haven Associates (Apartment Building)	96 Fifth Avenue
	RCRIS-SQG, FINDS	Thriving Dry Cleaners	80-19 5th Avenue
	RCRIS-SQG, FINDS	Hollywood Cleaners	56-09 5th Avenue
	RCRIS-SQG, FINDS	Jays Quality Dry Cleaners	68-16 5th Avenue
	RCRIS-SQG, FINDS	Fountain Dry Cleaners	68-16 5th Avenue
	RCRIS-SQG, FINDS	Jins Cleaners	76-03 5th Avenue
	RCRIS-SQG, FINDS	Magnetam Cleaners and Laundromat	86-17 5th Avenue
	RCRIS-SQG, FINDS	Fancy Cleaners	79-21 5th Avenue
115	New York Spills	Residence	121 St. Marks Place
	New York Spills	Residence	121 St. Marks Place
116	Petroleum Bulk Storage (PBS) Database-UST	Chock Full O'Nuts Corporation	588 Baltic Street
121	Leaking UST Incident	D. Gaver & Sons Inc.	267 Douglas Street
	Leaking UST Incident, New York Spills	Whaleco Fuel	280 Douglas Street
	Petroleum Bulk Storage (PBS) Database-UST	D. Gaver & Sons Inc.	267 Douglas Street
	Petroleum Bulk Storage (PBS) Database-UST	Ryder Truck Rental Inc.	280 Douglas Street
	RCRIS-SQG, FINDS	Electric Switchboard Company Inc.	185 Third Avenue
	RCRIS-SQG, FINDS	Ryder Truck Rental Inc.	280 Douglas Street

<b>Table 1 (continued)</b> <b>Gowanus Canal Environmental Database Summary</b> <b>Brooklyn, New York</b>			
Map ID Number	Database Listing	Company Name/Location	Street Address
123	RCRIS-SQG, FINDS	New York City Board of Ed - Public School 58 K	330 Smith Street
	RCRIS-SQG, FINDS	Rapid Valet Cleaners	339 Smith Street
125	Major Oil Storage Facilities Database-UST	Bayside Fuel Depot Inc.	510 Sackett Street
127	Leaking UST Incident	Private Dwelling	909 St. Marks Avenue
128	Petroleum Bulk Storage (PBS) Database-UST	A & A Brake Company Inc.	560 Sackett Street
	RCRIS-SQG, FINDS	Auto Body Concepts DBA ABC Collision	549 Sackett Street
131	Leaking UST Incident	7 3rd Street/Peps S/S	7 3rd Street
135	Leaking UST Incident	Whaleco Fuel	325 Nevins Street
	Leaking UST Incident	Private Dwelling	473 President Street
136	Petroleum Bulk Storage (PBS) Database-UST	Lee Brothers Auto and Body Repair Inc.	375 Smith Street
	Petroleum Bulk Storage-AST, Petroleum Bulk Storage (PBS) Database-UST	Har-Tom Ltd., Inc.	Skyline Drive
140	Leaking UST Incident	Del's Auto Repair	70 2nd Street/New Utrecht Avenue
145	Leaking UST Incident, New York Spills	Red Hook Terminal	Hamilton Avenue
146	RCRIS-SQG, FINDS	Linda Tool & Die Corporation	459 Carroll Street
148	RCRIS-SQG, FINDS, CORRACTS	Patterson Chemical Corporation	102 3rd Street
152	Leaking UST Incident	New York Petroleum	66 4th Street
155	Petroleum Bulk Storage (PBS) Database-UST	Clarín Truck Leasing Corporation	312 3rd Avenue
	RCRIS-SQG, FINDS	Finest Auto and Recovery	310 3rd Avenue
165	Facility Register-LF	Red Hook Crushers Inc.	186 3rd Street
	Leaking UST Incident	New York Telephone Corporation	175 3rd Street
	Leaking UST Incident	All Boros	200 3rd Street
	RCRIS-SQG, FINDS	New York Telephone Corporation	175 Third Street
170	Leaking UST Incident	MCIZ Corporation	1-25 2nd Avenue
	Leaking UST Incident, RCRIS-SQG, FINDS	New York City Department of Sanitation	15 2nd Avenue BK-N-2
171	Facility Register-LF, RCRIS-SQG, FINDS	Spartan Dismantling Corporation	110 5th Street
174	RCRIS-LQG, FINDS	Con Edison - Third Avenue Service Yard	222 3rd Avenue at 1st Street
	RCRIS-SQG, FINDS	Pippin Enterprises Ltd.	220 3rd Street
177	Petroleum Bulk Storage (PBS) Database-UST	Red Hook Concrete Loading Corporation	Smith Street/9th Street
177	RCRIS-SQG, FINDS	MTA NYCT - Smith & 9th Street Station	Smith and 9th Street
	Leaking UST Incident	106 6th Street	106 6th Street
180	Registered Recycling Facility List	U.S.A. Recycling Corporation	141 Sixth Street
185	Petroleum Bulk Storage (PBS) Database-UST	Northville	519 Smith Street
	RCRIS-SQG, FINDS	Polizzi Sal	519 Smith Street
191	Petroleum Bulk Storage (PBS) Database-UST	Walter Umla Lbr Div of Dykes	180 6th Street
194	Leaking UST Incident	New York Telephone	44-21 9th Street
195	Leaking UST Incident	Bayside Fuel Oil Depot Corporation	537 Smith Street
	Leaking UST Incident	Bayside Fuel Oil Depot Corporation	537 Smith Street
	Leaking UST Incident	Bayside Fuel Oil Depot Corporation	537 Smith Street
	Major Oil Storage Facilities Database-UST, Major Oil Storage Facilities Database-AST	Bayside Fuel Oil Depot Corporation	537 Smith Street
	RCRIS-SQG, FINDS, FIFRA/TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)	Bayside Fuel Oil Depot Corporation	537 Smith Street
200	RCRIS-SQG, FINDS	Giuseppe & Sons Inc.	414 3rd Avenue
204	Leaking UST Incident	Old Post Office	124 2nd Avenue
	Leaking UST Incident	New York City Department of Sanitation	127 2nd Avenue
	Leaking UST Incident	Empire State Fuel	138 2nd Avenue
	Leaking UST Incident	Empire State Fuel	138 2nd Avenue
205	Leaking UST Incident	Mobil Oil Corporation SS #F6J	375 Hamilton Avenue
	Leaking UST Incident	Mobil Oil Corporation SS #F6J	375 Hamilton Avenue
	Petroleum Bulk Storage (PBS) Database-UST	Retail Gasoline Facility	354 Hamilton Avenue
	Petroleum Bulk Storage (PBS) Database-UST, RCRIS-SQG, FINDS	Mobil Oil Corporation SS #F6J	375 Hamilton Avenue
	Petroleum Bulk Storage-AST, Petroleum Bulk Storage (PBS) Database-UST	New York Fire Department	252 Lorraine Street
	RCRIS-LQG, FINDS	MTA NYCT - Campbell Storage	532 Smith Street
206	Facility Register-LF	IESI NY Corporation	577 Court Street
207	New York Spills	Con Edison Vault 5326	238 6th Street/3rd Avenue
218	Leaking UST Incident	US Post Office	11th Street/2nd Avenue
219	Facility Register-LF	First Brooklyn T.S.	611 Court Street
230	Chemical Bulk Storage Database-AST	Witco Corporation	700 Court Street
	New York Spills	Argus Division/Witco Corporation	688 Court Street
	New York Spills	Witco Corporation	700 Court Street
	New York Spills	Witco Corporation	700 Court Street
	New York Spills	Hess Term.	766 Court Street

	Petroleum Bulk Storage (PBS) Database-UST	Brooklyn Union/Red Hook Satellite	651 Court Street
<b>Table 1 (continued)</b> <b>Gowanus Canal Environmental Database Summary</b> <b>Brooklyn, New York</b>			
Map ID Number	Database Listing	Company Name/Location	Street Address
230	Petroleum Bulk Storage-AST, Petroleum Bulk Storage (PBS) Database-UST	Argus Division/Witco Corporation	688 Court Street
	RCRIS-LQG	Argus Division/Witco Corporation	688 Court Street
	RCRIS-SQG, FINDS	Brooklyn Union/Red Hook Satellite	651 Court Street
	RCRIS-SQG, FINDS, Chemical Bulk Storage Database	Witco Corporation	700 Court Street
233	Leaking UST Incident	NYCDOT Hamilton Yard	448 Hamilton Avenue
234	New York Spills	Manhole 16983	Clinton Street/Bryant Street
236	Chemical Bulk Storage Database-AST	Amerada Hess Corporation	722 Court Street
	Leaking UST Incident	Amerada Hess Corporation	722 Court Street
	Leaking UST Incident, Major Oil Storage Facilities Database-UST, Major Oil Storage Facilities Database-AST, New York Spills, RCRIS-SQG, FINDS	Amerada Hess Corporation	722 Court Street
	Leaking UST Incident, New York Spills	Amerada Hess Corporation	722 Court Street
	New York Spills	Amerada Hess Corporation	722 Court Street
	New York Spills	Spentonbush Redstar	671 Court Street
	New York Spills	Amerada Hess Corporation	722 Court Street
	New York Spills	Amerada Hess Corporation	722 Court Street
	New York Spills	Amerada Hess Corporation	722 Court Street
	New York Spills	Amerada Hess Corporation	722 Court Street
	New York Spills	Amerada Hess Corporation	764 Court Street
	New York Spills	Amerada Hess Corporation	764 Court Street
240	CERCLIS	Hamilton Avenue Incinerator	555 Hamilton Avenue
243	Leaking UST Incident	Spentonbush Redstar	Court Street- Pier 8
254	Leaking UST Incident	US Post Office	Avenue 2/East 18th Street
259	RCRIS-SQG, RCRIS-TSD, FINDS, CORRACTS	Debevoise Company	74 20th Street
261	Petroleum Bulk Storage (PBS) Database-UST	Jetro Cary & Carry	566 Hamilton Place
266	Leaking UST Incident	Sewer System	21st Street off 3rd Avenue
277	NPDES/SPDES	Con Ed, Gowanus Generating Plant	27th Street, 3rd Avenue
278	NPDES/SPDES	Amerada Hess Corporation, Brooklyn Terminal	722 Court Street
279	NPDES/SPDES	Universal Fixture Corporation	59 9th Street
280	NPDES/SPDES	S & S Water Company	107 6th Street
281	RCRIS-LQG, FINDS	NYCDOT Bridge BIN 2240250	3rd Street Bridge over Gowanus Canal
Notes: CERCLIS - Comprehensive Environmental Response, Compensation and Liability Information System RCRIS - Resource Conservation Recovery Information Database CORRACTS - Corrective Action NPDES/SPDES - National Pollution Discharge Elimination System/New York State Pollution Discharge Elimination System PBS - Petroleum Bulk Storage LQG - Large Quantity Generators SQG - Small Quantity Generators TRIS - Toxic Chemical Release Inventory System FINDS - Facility Index System/Facility Identification Initiative Program Summary Report FIFRA/TSCA - Federal Insecticide, Fungicide, and Rodenticide Act/Toxic Substances Control Act NYSDEC - New York State Department of Conservation UST - Underground Storage Tank LUST - Leaking Underground Storage Tank MOSF - Major Oil Storage Facilities LF - Solid Waste Landfill AST - Aboveground Storage Tank			

**Table 2**  
**Gowanus Canal Historical Coal Yard Summary**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approx. Years of Operation
6	American Oil Company	Bush Street, Smith Street, Gowanus Canal	Oil Company, Coal Yard, Cooperage	1886
6a	American Oil Company	Smith Street, Hamilton Avenue, Gowanus Canal	Coal Yard, Storage	1886
7	No Name	Center Street, Smith Street, Gowanus Canal	Coal Storage	1950
8	Pennsylvania Coal Company/ Pittston Coal	9th Street, Smith Street, Gowanus Canal	Coal Yard	1869
8	Penna Coal Company	9th Street, Smith Street, Gowanus Canal	Coal Yard, Storage	1880-1886
8	Thompson & Company Coal Yard/ Donald & Company Oil Storage	9th Street, Smith Street, Gowanus Canal	Coal Yard/Oil Storage	1886
9	R.J. Keller Wood & Coal Company	Smith Street, Hamilton Avenue, Gowanus Canal	Wood & Coal Yard	1886
9	Nelson Brothers Wood & Coal Yard	Smith Street, Hamilton Avenue, Gowanus Canal	Wood & Coal Yard	1904-1969
14b	No Name	West 9th Street, Smith Street	Coal Yard	1869
14b	Thompson & Company Coal Yard/ N. Ryan Contractor	West 9th Street, Smith Street	Coal Yard/Trestles	1915
17d	Ridgewood Coal Company, Inc.	5th Street, Gowanus Canal	Coal Company	1938
18	Dale Coal & Coke Company	2nd Avenue, 6th Street Basin, Gowanus Canal	Coal Yard	1938
18a	Howard Coal & Coke Company, Inc.	2nd Avenue, 6th Street Basin, Gowanus Canal	Coal Yard	1938-1950
18a	Howard Fuel Company/Brooklyn Union Gas Company	2nd Avenue, 6th Street Basin, Gowanus Canal	Coal Yard/Regulating Station	1969-1996
19a	J. Povey/Hastings & Povey	7th Street Basin, Gowanus Canal	Coal Storage	1886
19b	Hygrade Coal Company, Inc.	7th Street, 7th Street Basin	Coal Pockets	1938
20	Jho. M. Lee, Inc.	7th Street Basin-northeast end	Coal Yard	1938
20a	L. Conzen & Son Coal Yard	2nd Avenue, 7th Street Basin	Coal Yard	1904-1915
21	Weber & Quinn Coal Yard	9th Street, 7th Street Basin	Coal Yard	1886-1969
21a	Jho. M. Lee, Inc. - Part of #20	9th Street, 7th Street Basin	Coal Yard	1938
28	No Name	Carroll Street, President Street, Gowanus Canal	Coal Yard	1938
29	Lidford's Wood & Coal	Bond Street, President Street, Union Street, Gowanus Canal	Wood & Coal Yard	1886-1915
30	J.F. Schmadeke, Inc. Coal Yard	Bond Street, Union Street, Gowanus Canal	Coal Yard	1886-1915
30	Magnet Fuel Corp.	Bond Street, Union Street, Gowanus Canal	Coal Yard	1938
30a	J.F. Schmadeke Coal Yard - part of #30	Bond Street, Union Street, Gowanus Canal	Coal Yard	1904-1915
30a	Magnet Fuel Corp. - Part of #30	Bond Street, Union Street, Gowanus Canal	Coal Yard	1938
31a	Koppers Seaboard Coke Co./Morton Coal Co.	Carroll Street, Union Street, Gowanus Canal	Coke Co., Garages/ Coal Co.	1929-1938

**Table 2 (continued)**  
**Gowanus Canal Historical Coal Yard Summary**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approx. Years of Operation
35	Spence's Coal & Wood Yard	Baltic Street, 3rd Avenue	Wood & Coal Yard	1886
38	Nelson Brothers Coal Yard	2nd Avenue, Hamilton Avenue, Gowanus Canal	Coal Yard	1904
38	Nelson Brothers Coal Yard	2nd Avenue, Hamilton Avenue, Gowanus Canal	Coal Yard	1915
38c	Nelson Brothers Wood & Coal Yard	3rd Avenue, Hamilton Avenue	Wood & Coal Yard, Coal Pile/sheds	1886
40	No Name	3rd Street, Gowanus Canal	Coal Yard	1869
40	Greason, Son & Dalzell Coal Yard	3rd Street, Gowanus Canal	Coal Yard	1915-1950
41	Rubel Coal Corp	3rd Street, Bond Street, Gowanus Canal	Coal Yard	1929
41	Burns Brothers Coal Yard (not in operation)	3rd Street, Bond Street, Gowanus Canal	Coal Yard	1938
43	Chas & Somers Coal Co	3rd Street, 4th Street Basin, Gowanus Canal	Coal Yard	1929
43	Somerg & Conzen Coal Company, Inc./ Central Mason's Material Company, Inc.	3rd Street, 4th Street Basin, Gowanus Canal	Coal Yard/ Mason's Materials	1938
44	Hopkins & Ennis Coal Yard	3rd Street, 4th Street Basin	Coal Yard	1886
44	Schroeder & Hortsman - Coal Yard	3rd Street, 4th Street Basin	Coal Yard	1904-1929
44	Horstmann-Higley Company, Inc.	3rd Street, 4th Street Basin	Coal Yard	1938
44a	Powell & Titus Coal Yard	3rd Street, 4th Street Basin	Coal Yard	1904-1938
46a	Burns Brothers Coal Yard	2nd Avenue, 4th Street Basin	Coal Yard/Garage	1938-1950
49a	Brooklyn Union Coal Company	3rd Street, Gowanus Canal	Coal Co.	1938
50	A.P. Wernerberg's Coal Yard	3rd Street, Gowanus Canal	Coal Yard	1886
50	Brooklyn Rapid Transit	3rd Street, Gowanus Canal	Coal Yard	1915-1929
50	Brooklyn Queens Transit	3rd Street, Gowanus Canal	Coal Yard	1938
51	Brooklyn Rapid Transit - part of #50	3rd Street, Gowanus Canal	Coal Yard	1915
51	Brooklyn Queens Transit - Part of #50	3rd Street, Gowanus Canal	Coal Yard	1938
53	Berg & Oakley's Coal Shed	3rd Avenue, 1st Street Basin	Coal Yard	1886
54	D.W. Wilkes Coal Yard/H.A. Philip & Co.	3rd Avenue, 1st Street Basin	Coal Yard/Paper Warehouse	1886
55a	Wood's Coal Yard	Nevins Street, Sackett Street, Gowanus Canal	Coal Yard	1886
56	Kelsey & Loughlin Coal Yard	Douglass Street, Nevins Street, Gowanus Canal	Coal Yard	1880-1904
56	Scranton & Lehigh Coal Company	Douglass Street, Nevins Street, Gowanus Canal	Coal Yard	1915-1950
56a	Story's Coal Yard	Degraw Street, Gowanus Canal	Coal Yard	1880-1886
56a	J.T. Story Coal Yard	Degraw Street, Gowanus Canal	Coal Yard	1904
56a	Scranton & Lehigh Coal Company - Part of #56	Degraw Street, Gowanus Canal	Coal Yard	1938-1950
57	Z.O. Nelson & Son Coal Yard	Degraw Street, Gowanus Canal	Coal Yard	1886-1915

**Table 2 (continued)**  
**Gowanus Canal Historical Coal Yard Summary**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approx. Years of Operation
57	Burns Brothers Coal Yard - Includes #57a	Degraw Street, Gowanus Canal	Coal Yard	1938
57a	Vanderbilt's Coal Yard	Bond Street, Sackett Street, Gowanus Canal	Coal Yard	1886
57a	Moquin, Offerman, Neissenbittel Coal Company	Bond Street, Sackett Street, Gowanus Canal	Coal Yard	1904
57a	Sackett Coal Company	Bond Street, Sackett Street, Gowanus Canal	Coal Yard	1915
57a	Burns Brothers Coal - Part of #57	Bond Street, Sackett Street, Gowanus Canal	Coal Yard	1938
57a	S. Soranno	Bond Street, Sackett Street, Gowanus Canal	Coal Yard	1950
57a	Premium Corp.	Bond Street, Sackett Street, Gowanus Canal	Coal Yard	1969-1996
58a	D. Kirsch Coal Yard	Bond Street, Douglass Street, Gowanus Canal	Coal Yard	1886
58b	No Name	Bond Street, Degraw Street, Gowanus Canal	Coal Yard	1880
58b	John H.O'Rourke	Bond Street, Degraw Street, Gowanus Canal	Coal Yard	1904
58b	John E. Larney	Bond Street, Degraw Street, Gowanus Canal	Coal Yard	1915-1938
58b	No Name	Bond Street, Degraw Street, Gowanus Canal	Coal Yard (not in operation)	1950
58c	No Name	Butler Street, End of Canal	Coal Yard	1880
59a	C.D. Willits & Sons Coal Yard	Douglass Street, Nevins Street, 3rd Avenue	Coal Yard	1886
65	William Nungasser Coal Yard	3rd Street, 3rd Avenue	Coal Yard	1906
65	Gowanus Coal Company, Inc.	3rd Street, 3rd Avenue	Coal Yard	1926
66	Thomas W. Wood & Sons	3rd Street, 4th Street, 3rd Avenue	Coal Yard	1888-1926
77	Scranton & Lehigh Coal Company	Butler Street, Douglass Street, Nevins Street	Coal Co.	1915-1938

**Notes:**

Sanborn Fire Insurance Maps for selected years (1869-1996)

Hyde, E.B., Map Company. Desk atlas, borough of Brooklyn, 1929

Ullitz, Hugo, Atlas of Brooklyn borough of the city of New York, 1898-1899

Dripps, M., Map of the city of Brooklyn, 1869

Prepared by: JJ

Checked by: DB

**Table 3**  
**Gowanus Canal Asphalt and Coal Tar Related Companies**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approx. Years of Operation
4a	Brooklyn Alcatraz Asphalt Company	12th Street, 13th Street, 2nd Avenue	Asphalt Mfg.	1915-1938
4c	Brooklyn Alcatraz Asphalt Company	12th Street, 13th Street, 2nd Avenue	Asphalt Mfg.	1915
10b	Coal Tar Product Company	Creamer Street, Smith Street	Coal Tar Products	1915-1938
11	Barrett Manufacturing Company	Halleck Street, Smith Street, Gowanus	Coal Tar Products, 2 Tar ASTs (4,467 & 5,5200 barrels), 2 Tar Pumps	1904-1938
11a & 11b	Barrett Manufacturing Company	Halleck Street, Sigourney Street, Smith Street	Coal Tar Products, Tar Felt Paper, Retort House, Mixers, Coating, Machine Shop	1904-1938
17	Kentile, Inc.	5th Street, 6th Street Basin	Asphalt Storage in barrels & drums, Cork Storage, Cork Plant	1950-1987
18	Uvalde Asphalt Paving Company	2nd Avenue, 6th Street Basin, Gowanus Canal	Paving/Road Work	1904
19b	Municipal Asphalt Plant - Highway Dept.	7th Street, 7th Street Basin	Asphalt Mfg.	1915
20	David E Kennedy, Inc	7th Street Basin-northeast end	Asphalt & Tile Mfg.	1950
20	Kentile, Inc.	7th Street Basin-northeast end	Asphalt Floor Covering Mfg.	1969-1996
20a	David E Kennedy, Inc - Part of # 20	2nd Avenue, 7th Street Basin	Asphalt Flooring	1950
20a	Kentile, Inc. - Part of #20	2nd Avenue, 7th Street Basin	Asphalt Floor Covering Mfg.	1969-1996
20b	David E Kennedy, Inc. - Part of #20, 20a, & #21a	2nd Avenue, 7th Street Basin	Asphalt Flooring	1950
20b	Kentile, Inc. - Part of #20, #20a, & #21a	2nd Avenue, 7th Street Basin	Asphalt Floor Covering Mfg.	1969-1996
21a	David E Kennedy, Inc - Part of # 20	9th Street, 7th Street Basin	Asphalt & Tile Mfg., Asphalt Emulsion Plant	1950
21a	Kentile, Inc. - Part of # 20	9th Street, 7th Street Basin	Asphalt Floor Covering Mfg.	1969-1996
21b	Kentile, Inc. - Part of # 20	9th Street, 7th Street Basin	Asphalt Floor Covering Mfg.	1969-1996
23	Cranford Company	9th Street, 10th Street, 11th Street, Gowanus Canal	Asphalt Plant	1938-1950
23a	Cranford Company - part of #23	9th Street, 10th Street, 11th Street, Gowanus Canal	Asphalt Plant	1904-1950
25a	NYC DPW Dep. Of Highways Municipal Asphalt Plant	2nd Avenue, Hamilton Avenue, Gowanus Canal	Asphalt Plant	1938-1996

**Table 3 (continued)**  
**Gowanus Canal Asphalt and Coal Tar Related Companies**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approx. Years of Operation
25a	Warren Chemical & Manufacturing Company Department of Barrett Manufacturing Company	2nd Avenue, Hamilton Avenue, Gowanus Canal	Asphalt Products	1904-1915
34a	Moer's Asphalt & Cement Works	1st Street, Bond Street	Asphalt & Cement Mfg.	1904
38a	Coal Tar Product Company	2nd Avenue, Hamilton Avenue	Roofing Products	1904
43	The Brooklyn Alcatraz Asphalt Works	3rd Street, 4th Street Basin, Gowanus Canal	Asphalt/Paving	1904

**Notes:**

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Ullitz, Hugo, Atlas of Brooklyn borough of the city of New York, 1898-1899  
Dripps, M., Map of the city of Brooklyn, 1869

Prepared by: JJ  
Checked by: DB

**Table 4**  
**Gowanus Canal Oil and Petroleum Related Companies**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approx. Years of Operation
6	Atlantic Oil Works	Bush Street, Smith Street, Gowanus Canal	Oil Company, Coal Yard	1880
6	American Oil Company	Bush Street, Smith Street, Gowanus Canal	Oil Company, Coal Yard, Cooperage	1886
7	Cirillo Brothers Coal & Fuel Company	Centre Street, Smith Street, Gowanus Canal	Fuel Oil & Coal Co., 1.26 mill.g. oil capacity, 2 500,000 gasoline ASTs	1969-1996
8	Thompson & Company Coal Yard/Donald & Company Oil Storage	9th Street, Smith Street, Gowanus Canal	Coal Yard/Oil Storage	1886
18	Adams Fuel Corp./Adams Petroleum Corp.	2nd Avenue, 6th Street Basin, Gowanus Canal	Fuel Co.	1950-1969
30a	Supreme Oil Terminal Corp.	Union, Bond, Gowanus Canal	Oil Terminal	1950
34b	Pure Oil Company	Bond Street, Carroll Street, Gowanus Canal	Oil Company	1929-1938
34b	Preferred Oil Co	Bond Street, Carroll Street, Gowanus Canal	Oil Company	1950
41	Pure Oil Company	3rd Street, Bond Street, Gowanus Canal	Oil Company	1915
43a	Pure Oil Company	3rd Street, 4th Street Basin	Oil Co ( 200,000 g oil AST)	1904
47	Standard Oil Company of NY	1st Street, Bond Street, Gowanus Canal	Oil Co., 3 Oil ASTs	1904-1938
47	Vesta Oil Works	1st Street, Bond Street, Gowanus Canal	Oil Co., Cooperage, Filling Room, Oil ASTs	1880-1886
71	The Texas Company	Clinton Street, Percival Street, Henry Street Slip	Oil Plant, Oil Company (3 large ASTs)	1915-1950

## Notes:

Sanborn Fire Insurance Maps for selected years (1869-1996)

Hyde, E.B., Map Company. Desk atlas, borough of Brooklyn, 1929

Ullitz, Hugo, Atlas of Brooklyn borough of the city of New York, 1898-1899

Dripps, M., Map of the city of Brooklyn, 1869

Prepared by: JJ

Checked by: DB

**Table 5**  
**Gowanus Canal Chemical, Fertilizer, and Plastic Manufacturing Companies**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approx. Years of Operation
16a	Argus Chemical Corporation	Court Street, Halleck Street, Smith Street, Gowanus Canal	Chemical Co.	1969-1993
13	No Name	Huntington Street, Smith Street, Gowanus Canal	Fertilizer Mfg	1898
13	American Agricultural Chemical Company	Huntington Street, Smith Street, Gowanus Canal	Chemical Fertilizer Mfg., Grinding Room	1904
13	H.J. Baker & Brother	Huntington Street, Smith Street, Gowanus Canal	Chemical Fertilizer Mfg., Phosphate Room, Crystallizing	1880-1886
75a	No Name	3rd Street, Bond Street	Chemical Laboratory, Manufacturing Chemists	1938-1951
23a	No Name	9th Street, 10th Street, 11th Street, Gowanus Canal	Chemical Storage, Buildings	1969-1986
36	Commonwealth Color & Chemical Company	Butler Street, Nevins Street	Chemical Works	1929-1938
16a	Witco	Court Street, Halleck Street, Smith Street, Gowanus Canal	Chemical Works	1995-1996
24	W.J. Matheson	131-133 12th St.	Chemical Works (small)	1886
18	Arno & Lecour	6th Street Basin, Gowanus Canal	Chemical Works, Ammoniacal Products	1886
22	Tartar Chemical Corp	9th Street, Gowanus Canal	Chemical Works, Crystallizing, Fuel Oil Tanks	1904-1938
22	Stauffer Chemical Corp.	9th Street, Gowanus Canal	Chemical Works, Crystallizing, Fuel Oil Tanks	1950
6	F.W. Devoe & C.T. Raynolds Paint Works, Inc.	Bush Street, Smith Street, Gowanus Canal	Paint Manufacturer	1908-1938
14	No Name	9th Street, Smith Street, Gowanus Canal	Sulphur Works	1886
16	Mica Roofing Company	Court Street, Halleck Street, Smith Street, Gowanus Canal	Roofing Paper Factory, 2 Oil ASTs, Manufacture Pitch, Chemical Works, Pitch Storage, Felt Shed	1886
19	John A. Still	7th Street Basin, Gowanus Canal	Sulphur Storage	1904
19	H.T. Cory's Atlantic Sulphur Works	7th Street Basin, Gowanus Canal	Sulphur Works	1886
23	Philips & Ferguson Paints, Whiting & Putty	9th Street, 10th Street, 11th Street, Gowanus Canal	Paint Factory	1904
27	Northeast Plastics Company/No Name	Carroll Street, Gowanus Canal	Plastic Manufacturing/Auto Wrecking	1969-1996
27	John P. Carlson, Inc.	Carroll Street, Gowanus Canal	Printing Ink Mfg	1938-1950
32	Plastic Products Mfg.	Nevins Street, Union Street, Gowanus Canal	Plastic Products Manufacturing	1980
37	Plastic Products Mfg.	Butler Street, Nevins Street	Plastic Products Manufacturing	1969-1982

**Table 5 (continued)**  
**Gowanus Canal Chemical, Fertilizer, and Plastic Manufacturing Companies**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approx. Years of Operation
39	J.A.S. Parsons Bleaching & Dyeing Works	19th Street, 3rd Avenue	Bleaching Rooms, Dye House	1886
52	Gowanus Chemical Company (H.J. Baker and Borthers)	Gowanus Canal, 1st Street Basin	Chemical Works	1869
52	Nassau Sulphur Works/Smith & Shaw	1st Street Basin, Gowanus Canal	Sulphur Works/Mattress	1886
63	American Can Company - Somers Branch	3rd Street, 3rd Avenue	Can Co., Tinware Mfg., Printing	1906 (1915 - no Sanborn coverage)
63	Somers Brothers Decorated Tinware	3rd Street, 3rd Avenue	Tin Smith	1888
67	The Debevoise Company	21st Street, 3rd Avenue	Paint Factory	1951-1985
67	No Name/Stevedore Storage	21st Street, 3rd Avenue	Paint Factory/Storage	1987-1996
67	H.D. Roosen Co	21st Street, 3rd Avenue	Painting Ink Factory	1926
68	Britannia Dye Works	22nd Street, 3rd Avenue, Gowanus Canal	Dye Works	1888
76	A&G Plastic Manufacturing	11th Street, 2nd Avenue	Plastic Manufacturing	1977-1987
82	Magnuson Products Corp.	3rd Street, Hoyt Street	Industrial Cleaning Compounds Mfg.	1938-1987
84	Sapolin Company, Inc.	Clinton Street, Lorraine Street	Paint Manufacturer	1938-1987
84	No Name	Clinton Street, Lorraine Street	Paint Manufacturer	1992-1996
86	Brewers Pitching	10th Street, 2nd Avenue	Pitch Plant	1904
86	E. Zobel Co., Inc.	10th Street, 2nd Avenue	Pitch & Paint manufacturer	1938-1950
17b	J.W. Masury & Son	5th Street, 6th Street Basin, Gowanus Canal	Dry Color Works	1886
17b	Nassau Sulphur Works	5th Street, 6th Street Basin, Gowanus Canal	Sulphur Works	1904
17b	E.J. Beggs & Company Sulphur Works	5th Street, 6th Street Basin, Gowanus Canal	Sulphur Works	1915
34a	Reliance Paint Company	1st Street, Bond Street	Paint Manufacturer	1915
4c	No Name	12th Street, 13th Street, 2nd Avenue	Sanitation Chemicals Mfg.	1950-1977
4c	No Name	12th Street, 13th Street, 2nd Avenue	Sanitation Chemicals Mfg./Auto Salvage Yard	1979-1992
53a	Brooklyn Rapid Transit R.R. - Part of #52	3rd Street, 3rd Avenue, 1st Street Basin	Water Softening Plant	1904-1915
58b	Plastic Products Mfg.	Bond Street, Douglass Street, Gowanus Canal	Plastic Products Manufacturing	1969-1987
76a	Court Manufacturing Company	10th Street, 2nd Avenue	Plastic Manufacturing	1969
6b	Durable Paint Company	Bush Street, Smith Street	Paint Mfg.	1938-1969
11b	Argus Chemical Corporation	Court Street, Halleck Street, Sigourney Street	Metallic Soap Mfg.	1969-1996
2	No Name	3rd Street, 4th Street, Hoyt Street	Wood Working, Lacquer Mfg.	1987
2	No Name	3rd Street, 4th Street, Hoyt Street	Wood Working, Spray Booths	1950

**Table 5 (continued)**  
**Gowanus Canal Chemical, Fertilizer, and Plastic Manufacturing Companies**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approx. Years of Operation
5	S. Roebuck Window Screens	13th Street, 2nd Avenue, Gowanus Canal	Lumber Yard, Oils, Machine Shop, Painting & Varnish	1904
6c	Devoe & Raynolds Co Inc,	Court Street, Huntington Street, Smith Street	Paint Manufacturer	1929
148	Patterson Chemical Company, Inc.	102 3rd Street	Chemical Manufacturing	1994

**Notes:**

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Prepared by: JJ

Checked by: DB

**Table 6**  
**Gowanus Canal Manufacturing Companies**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approximate Years of Operation
1	Citizens Gas Light Company	Hoyt Street, Hamilton Avenue, Gowanus Canal	3 Holders, Storage Only	1880-1886
1	Ferrara Brothers Cement	Hoyt Street, Hamilton Avenue, Gowanus Canal	Cement Factory	1980-1996
1	Brooklyn Union Gas Company - Citizens Works	Hoyt Street, Hamilton Avenue, Gowanus Canal	Gas Works, 3 Holders	1869-1969
2	Ramel Manufacturing Company, Inc.	3rd Street, 4th Street, Hoyt Street	Metal Toiletware Mfg.	1938
2	Abigal Press, Inc.	3rd Street, 4th Street, Hoyt Street	Printing Press Business	1991-1996
2	No Name	Hoyt, 3rd St, 4th Street	Tile Company	1898
2	International Tile Company	3rd Street, 4th Street, Hoyt Street	Tile Company	1886
2	New York Vitrified Tile Company	3rd Street, 4th Street, Hoyt Street	Tile Company	1904
2	The Brooklyn Vitrified Tile Works	3rd Street, 4th Street, Hoyt Street	Tile Company	1915
2	No Name	3rd Street, 4th Street, Hoyt Street	Wood Working	1969-1986
2a	Lorraine Fibre Mills, Inc. (1938 - to be occupied by)	4th Street, Bond Street, Gowanus Canal	Burlap Tarp Mfg, Upholstery Supplies	1938-1986
2a	Ridgewood Ice Company	4th Street, Bond Street, Gowanus Canal	Ice Company	1886
2a	American Ice Company	4th Street, Bond Street, Gowanus Canal	Ice Company	1904
2a	Knickerbocker Ice Company	4th Street, Bond Street, Gowanus Canal	Ice Company	1915
2b	No Name	4th Street, Bond Street, Hoyt Street	Auto Wrecking, Wire & Fibre Rope	1969
2b	No Name	4th Street, Bond Street, Hoyt Street	Chromium Plating, Finishing Plant	1950
2b	No Name	4th Street, Bond Street, Hoyt Street	Machine Shop, Auto Repair Garage	1938
2b	No Name	4th Street, Bond Street, Hoyt Street	Wholesale Plumbing, Wholesale Wire and Rope	1977-1996
5	Terminal Ornamental Iron Works, Inc.	13th Street, 2nd Avenue, Gowanus Canal	Iron Works	1915
5	No Name - multiple uses	13th Street, 2nd Avenue, Gowanus Canal	Mfg. Chemists, Machine Shop, Welding Shop, Brick Storage, Tile Warehouse, Old Electric Cable Storage, Contractor's Storage, Garage	1950-1969
6	No Name	Bush Street, Smith Street, Gowanus Canal	Cement Manufacturing	1977-1996
6a	No Name - Part of #6	Smith Street, Hamilton Avenue, Gowanus Canal	Cement Manufacturing	1977-1996

**Table 6 (continued)**  
**Gowanus Canal Manufacturing Companies**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approximate Years of Operation
6b	Lefferts & Jones Galvanizing & Tinning Works	Bush Street, Smith Street	Galvanizing & Tin Works	1904
10	W.G. Creamer & Company - Brooklyn City Foundry	Creamer (Grinnell) Street, Smith Street	Iron and Brass Foundry	1886-1938
10	Resina Automatic Machinery Company, Inc.	Creamer (Grinnell) Street, Smith Street	Machine Manufacturer	1950-1996
10a	No Name	Creamer Street, Smith Street	Boiler Works	1898
10a	Clonbrock Steam Boiler Company	Creamer Street, Smith Street	Boiler Manufacturer	1904
11b	Doran Manganese Bronze Company	Court Street, Halleck Street, Sigourney Street	Foundry & Machine Shop	1950
11b	Argus Chemical Corporation	Court Street, Halleck Street, Sigourney Street	Metallic Soap Mfg.	1969-1996
13	Antarenni Industries, Inc.	Smith Street, Huntington Avenue, Gowanus Canal	Metal Manufacturing	1977-1980
17a	Atlantic Starch Company	5th Street, 6th Street Basin, Gowanus Canal	Starch Mfg.	1886
17b	David E Kennedy, Inc. - Part of #17	5th Street, 6th Street Basin, Gowanus Canal	Metal Products Mfg.	1950
17c	David E. Kennedy, Inc. - Part of #17	5th Street, 6th Street Basin, Gowanus Canal	Cork Slab Plant	1938
23	David Kramer Cabinet Works	9th Street, 10th Street, 11th Street, Gowanus Canal	Cabinet Maker	1915
23	R.H. Smith Manufacturing Company	9th Street, 10th Street, 11th Street, Gowanus Canal	Carpet Lining	1886
29	Thomas Paulson & Son, Inc.	Bond Street, President Street, Union Street, Gowanus Canal	Brass Founders & Engineers	1938-1996
34	Rankin & Ross Stone Yard	Bond Street, Carroll Street	Stone Yard, Asphalt & Cement Factory	1886-1915
45	The Cupples Cordage Company	6th Street, 3rd Avenue, 4th Street Basin	Cordage and Rope Manufacturer	1915-1950
45	Hochberg Bros. & Schwartz, Inc.	6th Street, 3rd Avenue, 4th Street Basin	Fixture Manufacturing	1969-1996
45	Warren, Jones & Gratz Bagging Mill	6th Street, 3rd Avenue, 4th Street Basin	Mill	1886
45	D. Allen's & Sons Rope Co	6th Street, 3rd Avenue, 4th Street Basin	Textile	1904
47	Phillips Paper Products	1st Street, Bond Street, Gowanus Canal	Paper Mill	1950
47	Normandy Electric Wire & Cable Company	1st Street, Bond Street, Gowanus Canal	Wire & Cable Mfg.	1969
48	Normandy Electric Wire & Cable Company - Part of #47	1st Street, Bond Street, Gowanus Canal	Wire & Cable Mfr.	1969
48	Phillips Paper Products - part of #47	1st Street, Bond Street, Gowanus Canal	Paper Mill	1950
55	Majestic Metal Spinning & Stamping Company, Inc./No Name	Degraw Street, Nevins Street, Gowanus Canal	Metal Works, Plating/Garage, Auto Wrecking, Filling Station	1950

**Table 6 (continued)**  
**Gowanus Canal Manufacturing Companies**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approximate Years of Operation
55	Majestic Metal Spinning & Stamping Company, Inc./T.E. Conklin Brass & Copper Company, Inc./No Name	Degraw Street, Nevins Street, Gowanus Canal	Metal Works, Spraying, Plating/Brass & Copper Warehouse/Garage, Auto Wrecking	1969-1982
55	T.E. Conklin Brass & Copper Company, Inc./Adams Book Company/No Name	Degraw Street, Nevins Street, Gowanus Canal	Metal Works/?/Auto Wrecking, Auto Repair	1987-1996
58	Castle Brothers Cementine Sidewalk	Douglass Street, Gowanus Canal	Cement Factory	1904-1915
58	O.Z. Electric Manufacturing Company	Douglass Street, Gowanus Canal	Electric Mfg.	1969-1996
66	No Name	3rd Street, 4th Street, 3rd Avenue	Soap Mfg.	1965
66	Metropolitan Warehouse (American Can Company - Owner)	3rd Street, 4th Street, 3rd Avenue	Soap Mfg., Coal Yard (not used)	1951
71	Milliken Brothers Iron Works	Clinton Street, Percival Street, Henry Street Slip	Iron Works	1904
73	No Name	Bond Street, Carroll Street, President Street	Electric Bulb Mfg.	1950
73	William H. Jackson Company - Artisans in Metals	Bond Street, Carroll Street, President Street	Foundry, Plating, Metal Works	1915-1929
73	No Name	Bond Street, Carroll Street, President Street	Furniture Frame Mfg.	1938
73	Planet Mills Mfg. Company	Bond Street, Carroll Street, President Street	Jute Goods	1898-1904
73	No Name	Bond Street, Carroll Street, President Street	Upholstered Furniture Mfr.	1969-1987
73	The Mill	Bond Street, Carroll Street, President Street		1992-1996
74	American Machine & Foundry Company	1st Street, Bond Street, Carroll Street	Foundry, Automatic Machines for Cigar Making	1915
74	Planet Mills Mfg. Company/American Machine & Foundry Company	1st Street, Bond Street, Carroll Street	Jute, Silk/Foundry	1904
76	Charles A. Lefferts & Company	10th Street, 11th Street, 2nd Avenue	Foundry	1915
80	O.Z. Electrical Manufacturing Company	Bond Street, Degraw Street, Douglass Street	Electrical Fittings Mfg	1938-1996
83	Aetna Metalcraft Company	9th Street, 2nd Avenue	Metal Manufacturing	1969-1996
85	Viking Forge Company, Inc.	7th Street, 2nd Avenue, 3rd Avenue	Forge	1929-1969
87	Krantz Manufacturing	7th Street, 8th Street, 2nd Avenue	Electical Swichboard	1915
87	Westinghouse Electric & Man Co	7th Street, 8th Street, 2nd Avenue	Unknown	1929
20a	Kentile, Inc. - Part of #20	2nd Avenue, 7th Street Basin	Asphalt Floor Covering Mfg.	1969-1996
20a	David E Kennedy, Inc	2nd Avenue, 7th Street Basin	Asphalt Flooring	1950

**Table 6 (continued)**  
**Gowanus Canal Manufacturing Companies**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approximate Years of Operation
20a	The Ames Company/David E. Kennedy, Inc.	2nd Avenue, 7th Street Basin	Electric Spot Welders Mfg./Cork Flooring	1938
20b	Kentile, Inc. - Part of #20a, #21a & #20	2nd Avenue, 7th Street Basin	Asphalt Floor Covering Mfg.	1969-1996
20b	David E Kennedy, Inc. - Part of #20a, #21a & #20	2nd Avenue, 7th Street Basin	Asphalt Flooring	1950
20b	Hart Bagging Company - Part of #20a	2nd Avenue, 7th Street Basin	Bagging Mill	1886
20b	American Manufacturing Company	2nd Avenue, 7th Street Basin	Cordage & Jute Works	1904-1915
20b	David E Kennedy, Inc	2nd Avenue, 7th Street Basin	Cork Flooring	1938
31b	Dolin Metal Manufacturing	Carroll Street, Nevins Street, Union Street	Metal Manufacturing, Wood Casket Making	1969-1992
31b	No Name	Carroll Street, Nevins Street, Union Street	Metal Manufacturing, Wood Casket Making	1996
31b	Kenyon & Newton Sash & Door Factory	Carroll Street, Nevins Street, Union Street	Sash & Door Factory, Planing & Lumber Shed	1886-1904
31b	Metal Box Company	Carroll Street, Nevins Street, Union Street	Metal Manufacturing	1929
34a	Rapid Parts Mfg.	1st Street, Bond Street	Manufacturing	1950
42a	No Names	4th Street, Bond Street	Metal Working, Auto Repair, Parking, Storage	1969
4c	Brooklyn Union Gas Company	12th Street, 13th Street, 2nd Avenue	Cooperage, Warehouse	1938
53a	Sheet Iron Works	2nd Street, 3rd Avenue, 1st Street Basin	Sheet Iron Works	1886
68b	No Name	24th Street, 3rd Avenue, Gowanus Bay	Manufacturing	1951
68b	No Name	24th Street, 3rd Avenue, Gowanus Bay	Metal Works	1965-1995
75b	No Name	3rd Street, Bond Street	Truck Body Mfg.	1938
76a	Hauck Manufacturing, Company	10th Street, 2nd Avenue	Oil Burner Mfg.	1938-1950
76a	Court Manufacturing Company	10th Street, 2nd Avenue	Plastic Manufacturing	1969
88	Royal Metal Furniture Co	7th Street, 8th Street, 2nd Avenue	Metal Furniture Man	1915
88	United Metal Box CO Inc	7th Street, 8th Street, 2nd Avenue	Metal Box Manufacturing	1929-1938

**Notes:**

Sanborn Fire Insurance Maps for selected years (1869-1996)  
 Hyde, E.B., Map Company. Desk atlas, borough of Brooklyn, 1929  
 Ullitz, Hugo, Atlas of Brooklyn borough of the city of New York, 1898-1899  
 Dripps, M., Map of the city of Brooklyn, 1869

Prepared by: JJ  
 Checked by: DB

**Table 7**  
**Gowanus Canal Historic Railroad Sites**  
**Brooklyn, New York**

Historical Site ID	Company Name	Location	Operations	Approx. Years of Operation
3	Downing & Lawrence	Bryan Street, Gowanus Canal	Marine Railway	1886
8	B.M.T. Substation	9th Street, Smith Street, Gowanus Canal	Power Substation	1938
8	B.R.T. Substation	9th Street, Smith Street, Gowanus Canal	Power Substation, Coal Pockets	1915
8	Coney Island & Brooklyn R.R. Companies - Electric Power Station	9th Street, Smith Street, Gowanus Canal	Power Substation, Coal Pockets, Repair Shop, Repair Pits	1898-1904
52	Williamsburg Power Plant Corp.	1st Street Basin, Gowanus Canal	Power Substation	1938
52	N.Y.C. Transit System Substation	1st Street Basin, Gowanus Canal	Power Substation, Switching Yard	1950-1996
53a	N.Y.C. Transit System Substation - Part of #52	3rd Street, 3rd Avenue, 1st Street Basin	Power Substation, Switching Yard	1969

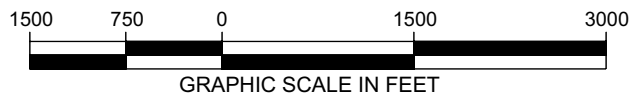
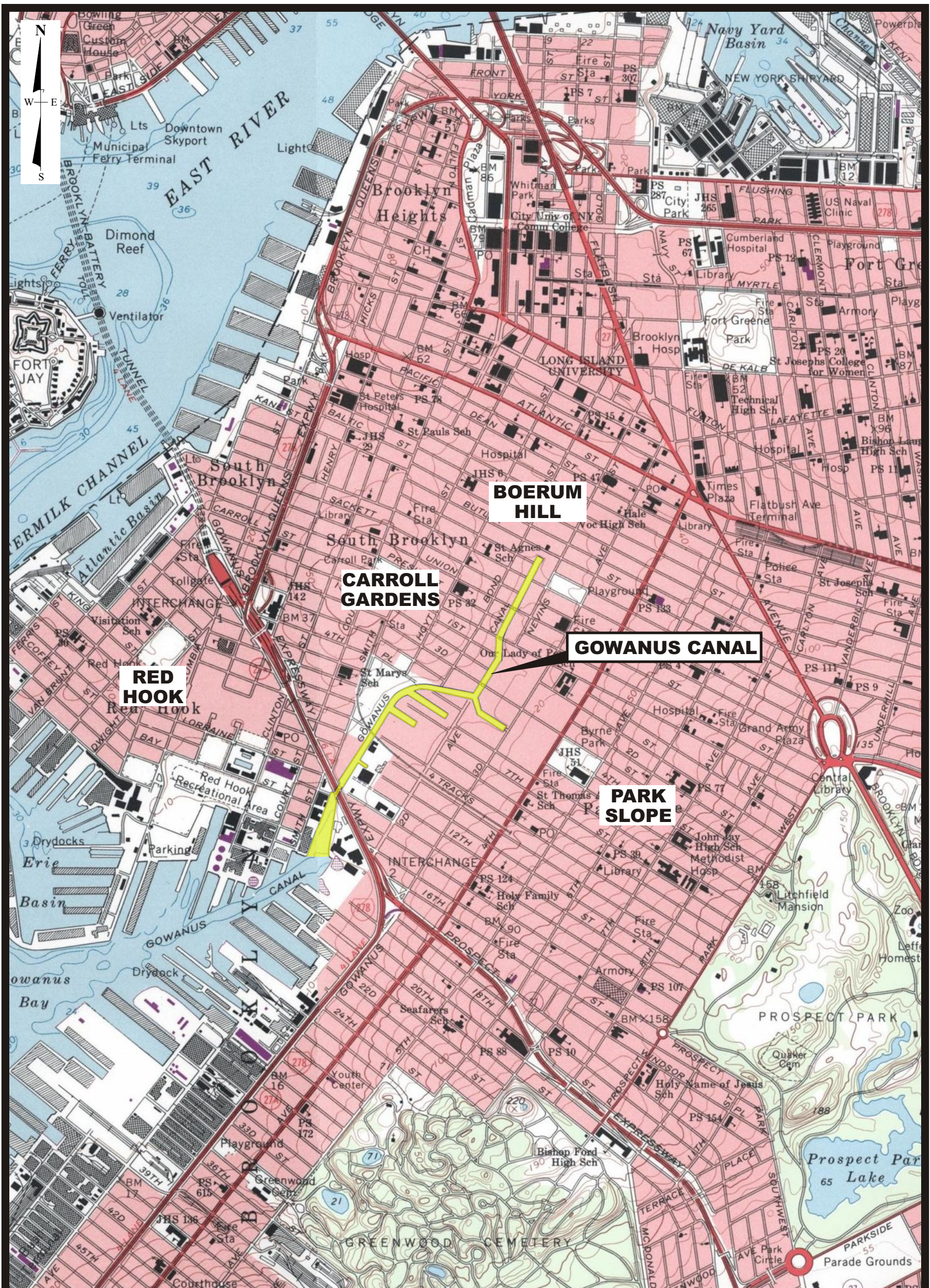
**Notes:**

Sanborn Fire Insurance Maps for selected years (1869-1996)  
 Hyde, E.B., Map Company. Desk Atlas, borough of Brooklyn, 1929  
 Ullitz, Hugo, Atlas of Brooklyn borough of the city of New York, 1898-1899  
 Dripps, M., Map of the city of Brooklyn, 1869

Prepared by: JJ  
 Checked by: DB

## Figures

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GRAPHIC SCALE IN FEET

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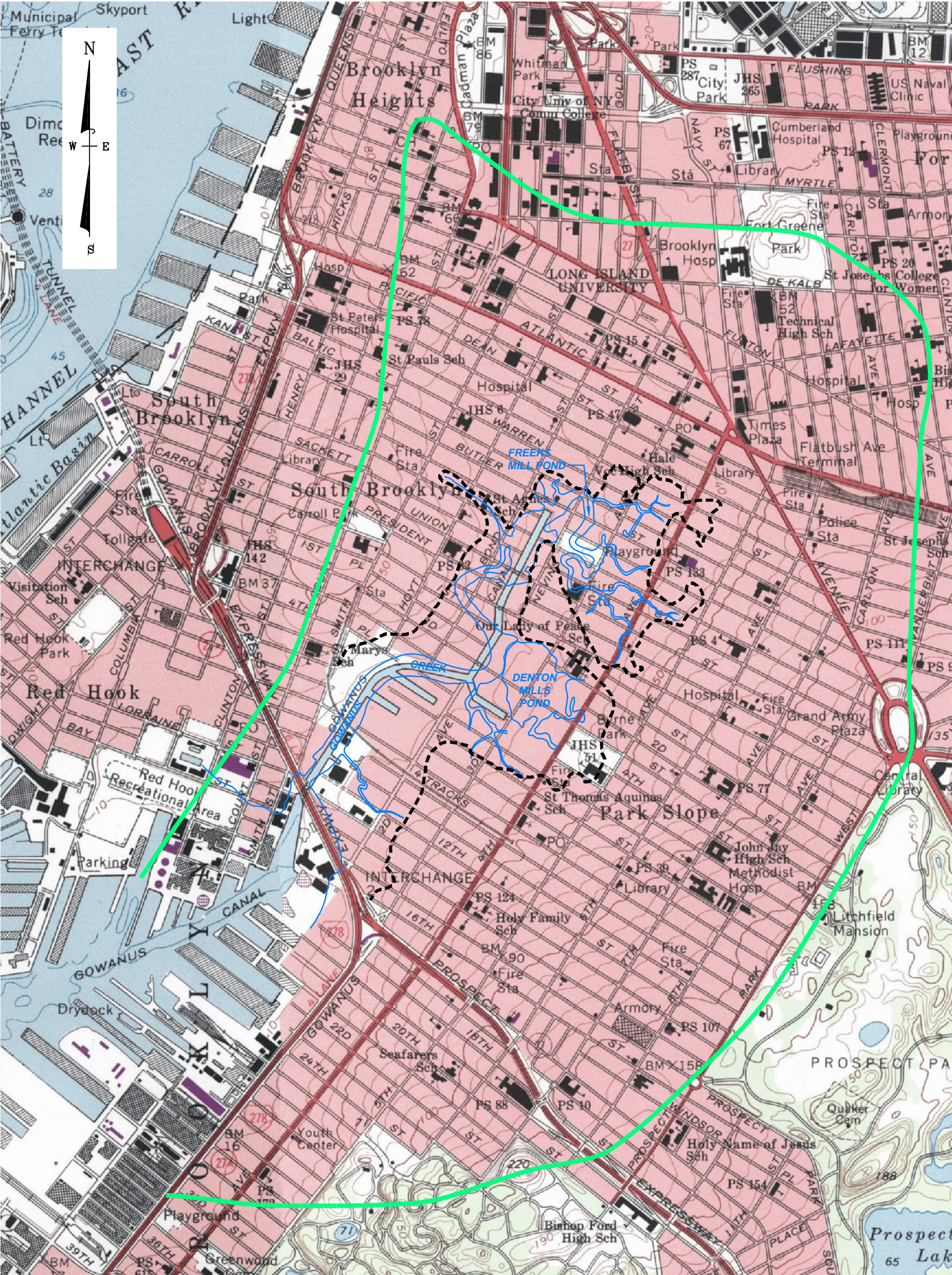


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**FIGURE 1  
STUDY AREA LOCATION**

KEYSPAN ENERGY  
GOWANUS CANAL  
BROOKLYN, NEW YORK


SOURCES:  
U.S.G.S. TOPOGRAPHIC MAP, BROOKLYN, N.Y., PHOTOREVISED 1979  
U.S.G.S. TOPOGRAPHIC MAP, JERSEY CITY, N.J. - N.Y., PHOTOREVISED 1981  
STUDY AREA, MAP 5, FROM "GOWANUS: A STRATEGY FOR INDUSTRIAL  
RETENTION", DATED OCTOBER 1985.





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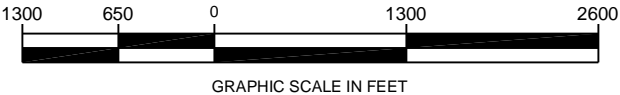
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**LEGEND**


 APPROXIMATE CURRENT  
GOWANUS DRAINAGE BASIN

 HISTORICAL WATERWAYS

 HISTORICAL INFERRED WETLAND  
BOUNDARY

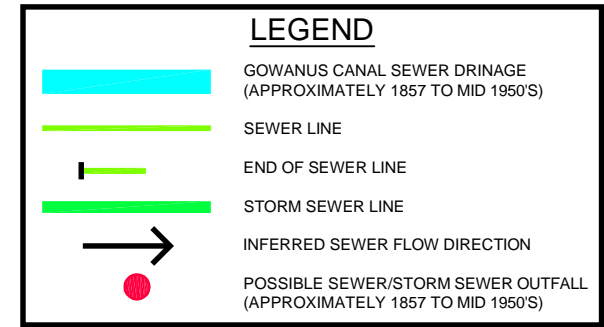
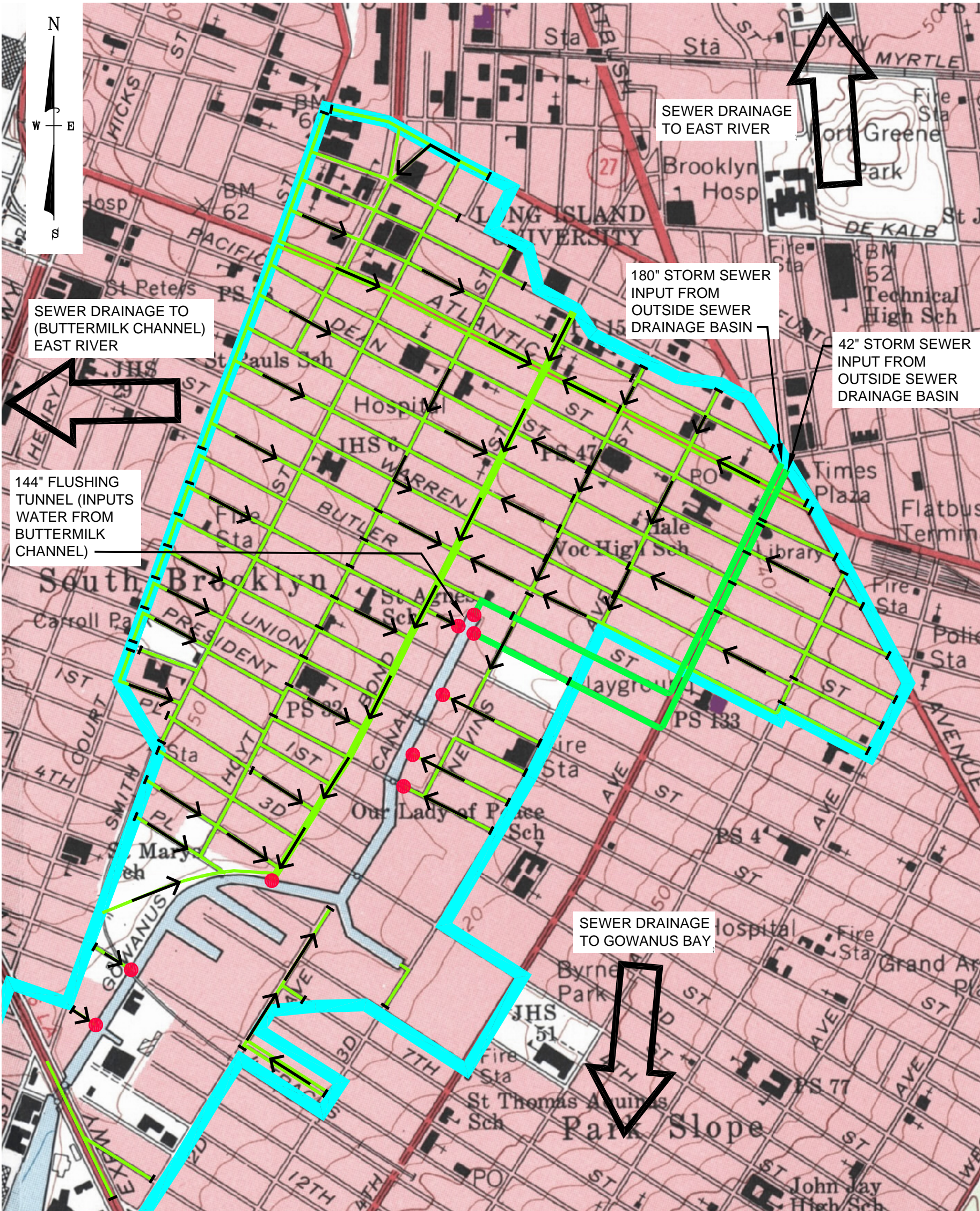


**SOURCES:**  
U.S.G.S. TOPOGRAPHIC MAP, BROOKLYN, N.Y., PHOTOREVISED 1979  
U.S.G.S. TOPOGRAPHIC MAP, JERSEY CITY, N.J. - N.Y., PHOTOREVISED 1981  
PLAN FOR THE DRAINAGE OF THAT PART OF THE CITY OF BROOKLYN WHICH EMPTIES ITS  
WATER INTO GOWANUS CREEK AND BAY BY DANIEL RICHARDS, DATED OCTOBER 1818.

 **GEI Consultants, Inc.**

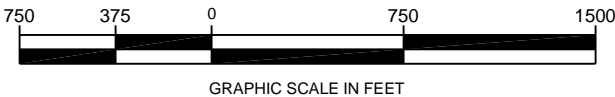
**FIGURE 2**  
**HISTORIC GOWANUS CREEK**  
**DRAINAGE**

GOWANUS CANAL  
KEYSPAN ENERGY  
BROOKLYN, NEW YORK



SOURCES:  
U.S.G.S. TOPOGRAPHIC MAP, BROOKLYN, N.Y., PHOTOREVISED 1979  
U.S.G.S. TOPOGRAPHIC MAP, JERSEY CITY, N.J. - N.Y., PHOTOREVISED 1981  
HYDE, E.B. MAP COMPANY, DESK ATLAS, BOROUGH OF BROOKLYN 1929.  
ULLITZ, HUYO, ATLAS OF BROOKLYN BOROUGH OF THE CITY OF NEW YORK. 1898-1899.

NOTE:  
GOWANUS CANAL SEWER DRAINAGE BASIN WAS CONSTRUCTED PRIMARILY THROUGH 1898 HYDE MAP WITH SEWER DRAINAGE INFORMATION FROM 1929 HYDE MAP. CURRENTLY THE 144" FLUSHING TUNNEL INPUTS WATER FROM THE BUTTERMILK CHANNEL INTO THE CANALS.



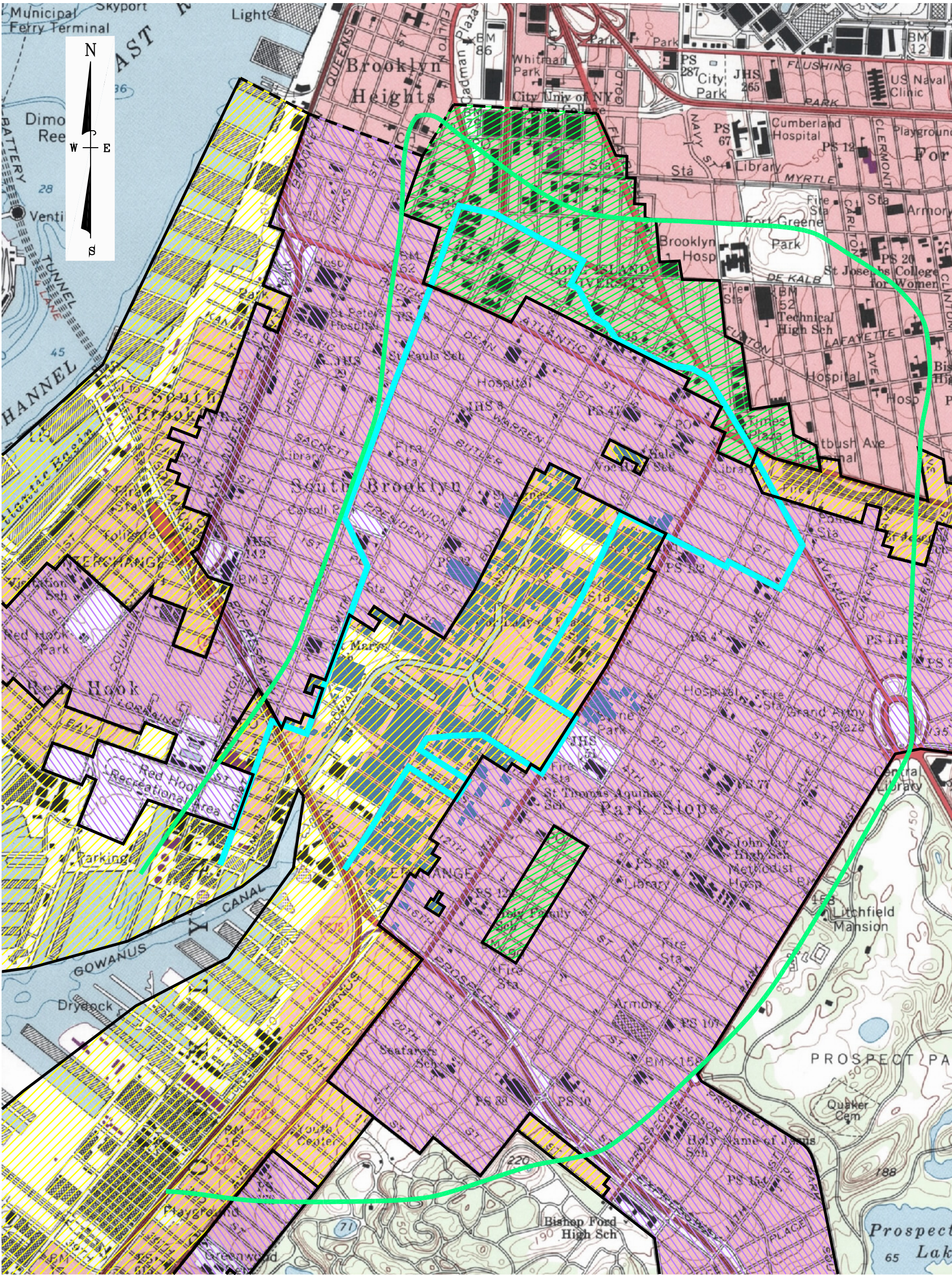
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**FIGURE 3  
HISTORIC SEWER DRAINAGE  
TO GOWANUS CANAL**

GOWANUS CANAL  
KEYSPAN ENERGY  
BROOKLYN, NEW YORK



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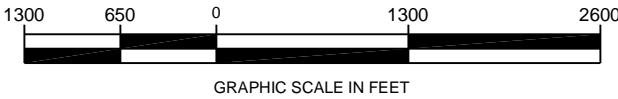
**GEI Consultants, Inc.**

**FIGURE 4  
INDUSTRIAL LAND USE  
1985 - 2002**

GOWANUS CANAL  
KEYSPAN ENERGY  
BROOKLYN, NEW YORK

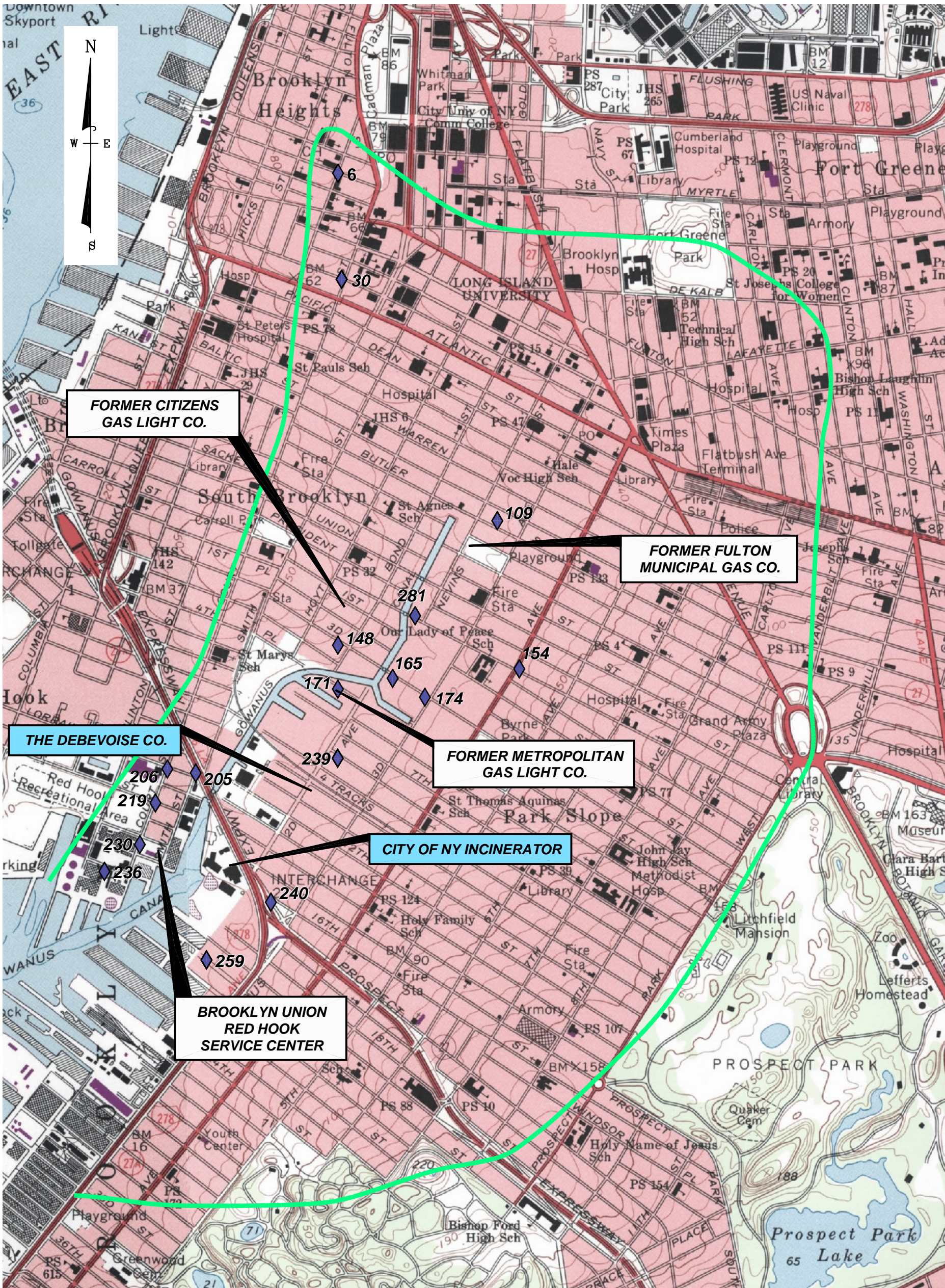
**LEGEND**

- GOWANUS CANAL SEWER DRAINAGE AREA
- INDUSTRIAL BUILDINGS - 1985
- RESIDENTIAL ZONING - JANUARY 29, 2002
- MANUFACTURING ZONING - JANUARY 29, 2002
- COMMERCIAL ZONING - JANUARY 29, 2002
- ZONING LIMIT



SOURCES:  
U.S.G.S. TOPOGRAPHIC MAP, BROOKLYN, N.Y., PHOTOREVISED 1979  
U.S.G.S. TOPOGRAPHIC MAP, JERSEY CITY, N.J. - N.Y., PHOTOREVISED 1981  
INDUSTRIAL LAND USE, MAP 5, FROM "GOWANUS: A STRATEGY FOR  
INDUSTRIAL RETENTION", DATED OCTOBER 1985.

NOTES:  
ZONING INFORMATION FROM JANUARY 29, 2002 NEW YORK CITY PLANNING  
COMMISSION, ZONING MAPS 16A, 16B, 16C, 16D.



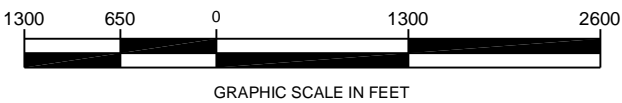
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SOURCES:  
U.S.G.S. TOPOGRAPHIC MAP, BROOKLYN, N.Y., PHOTOREVISED 1979  
U.S.G.S. TOPOGRAPHIC MAP, JERSEY CITY, N.J. - N.Y., PHOTOREVISED 1981  
SANBORN FIRE INSURANCE MAPS FOR SELECTED YEARS (1886-1996)  
ENVIRONMENTAL DATA RESOURCES, THE EDR CORRIDOR STUDY REPORT FOR THE  
GOWANUS CANAL CORRIDOR, DATED JANUARY 7, 2003.  
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DRIPPS, M. MAP OF THE CITY OF BROOKLYN. 1869.

**LEGEND**

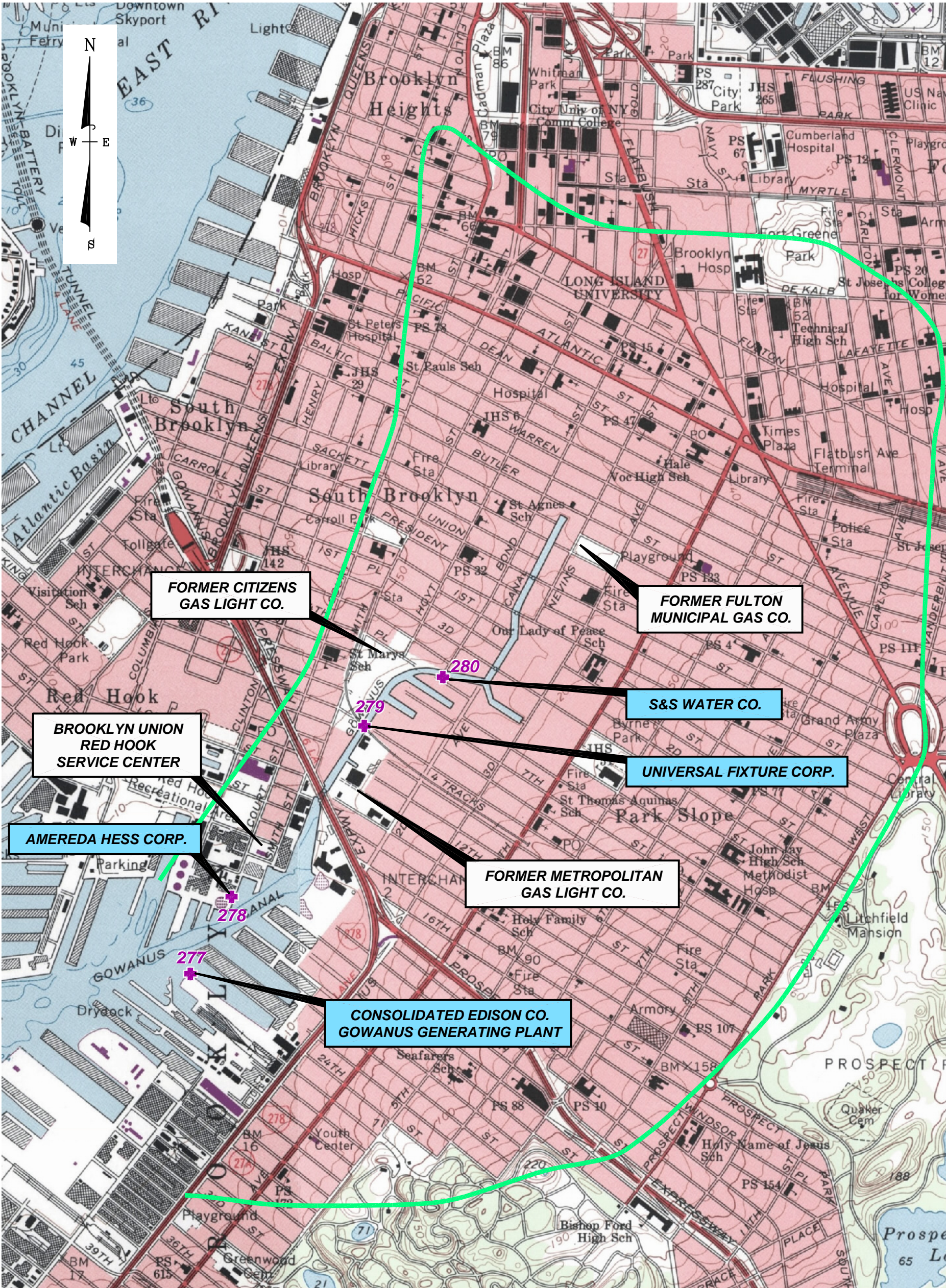
APPROXIMATE CURRENT  
GOWANUS DRAINAGE BASIN



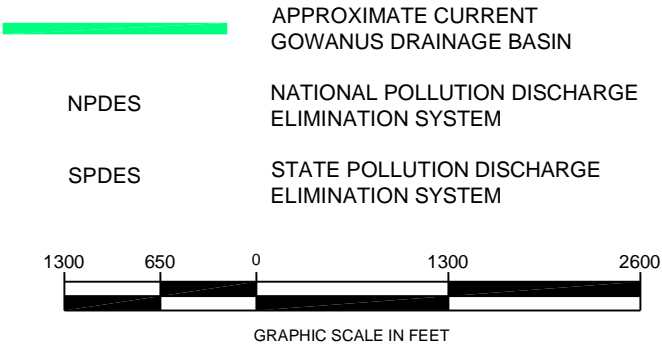
**GEI Consultants, Inc.**

**FIGURE 5  
RECENT LQG, TSDF, CORRACTS, VCP,  
DUMPS, INCINERATORS, AND SWF/LF**

GOWANUS CANAL  
KEYSPAN ENERGY  
BROOKLYN, NEW YORK



LEGEND



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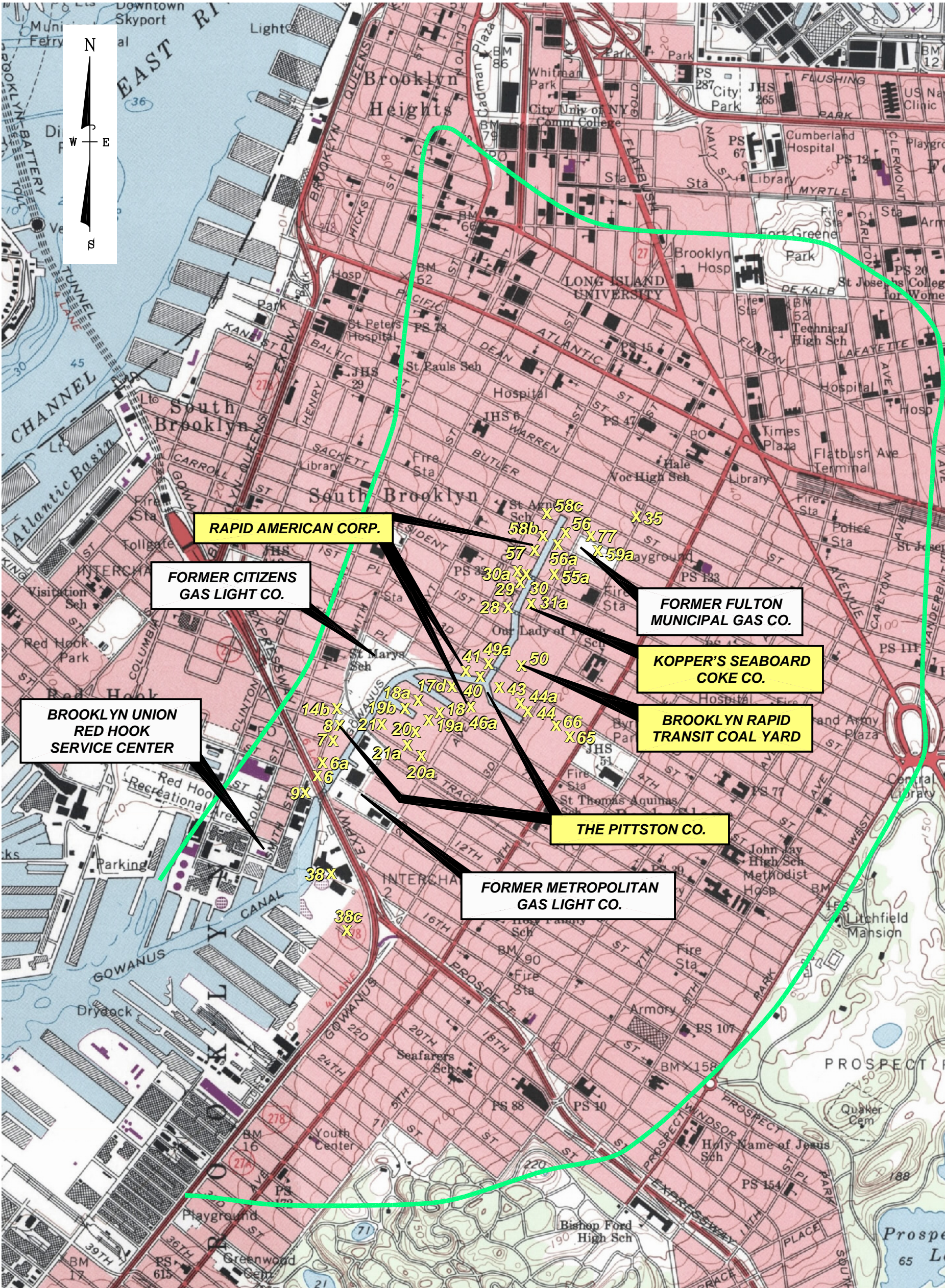
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SOURCES:  
U.S.G.S. TOPOGRAPHIC MAP, BROOKLYN, N.Y., PHOTOREVISED 1979  
U.S.G.S. TOPOGRAPHIC MAP, JERSEY CITY, N.J. - N.Y., PHOTOREVISED 1981  
ENVIRONMENTAL PROTECTION AGENCY (EPA) 2003 ENVIROFACTS WAREHOUSE WATER  
DISCHARGE PERMITS (PCS), INTERNET WEBSITE, [HTTP://OAS.PUB.EPA.GOV/ENVIRO/](http://oaspub.epa.gov/enviro/)  
NEW YORK DEPARTMENT OF ENVIRONMENTAL PROTECTION (NYSDEC) 2003. DEC  
ENVIRONMENTAL NAVIGATOR 1P, INTERNET WEBSITE,  
[HTTP://WWW.DOC.STATE.US/WEBSITE/IMSMAPS/DECNAV/VIEWER.HTM](http://www.doc.state.us/website/imsmaps/decnav/viewer.htm)

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**FIGURE 6  
RECENT NPDES/SPDES**

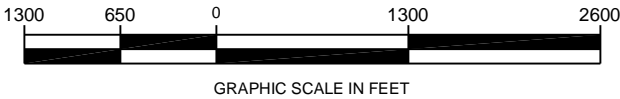
GOWANUS CANAL  
KEYSPAN ENERGY  
BROOKLYN, NEW YORK



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SOURCES:  
U.S.G.S. TOPOGRAPHIC MAP, BROOKLYN, N.Y., PHOTOREVISED 1979  
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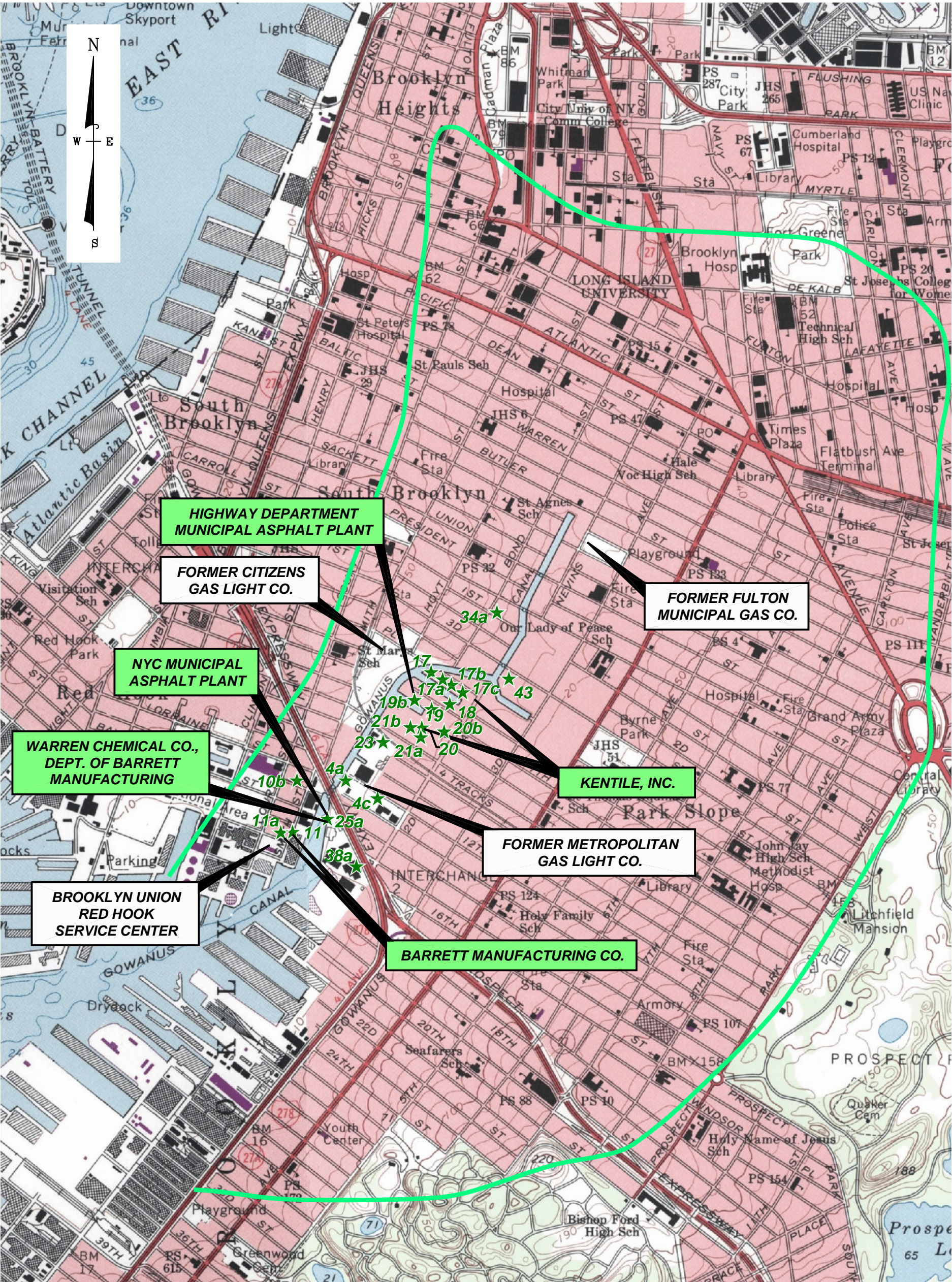


GRAPHIC SCALE IN FEET

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**FIGURE 7  
HISTORIC COAL YARDS**

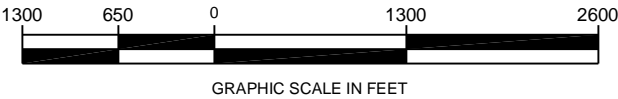
GOWANUS CANAL  
KEYSPAN ENERGY  
BROOKLYN, NEW YORK



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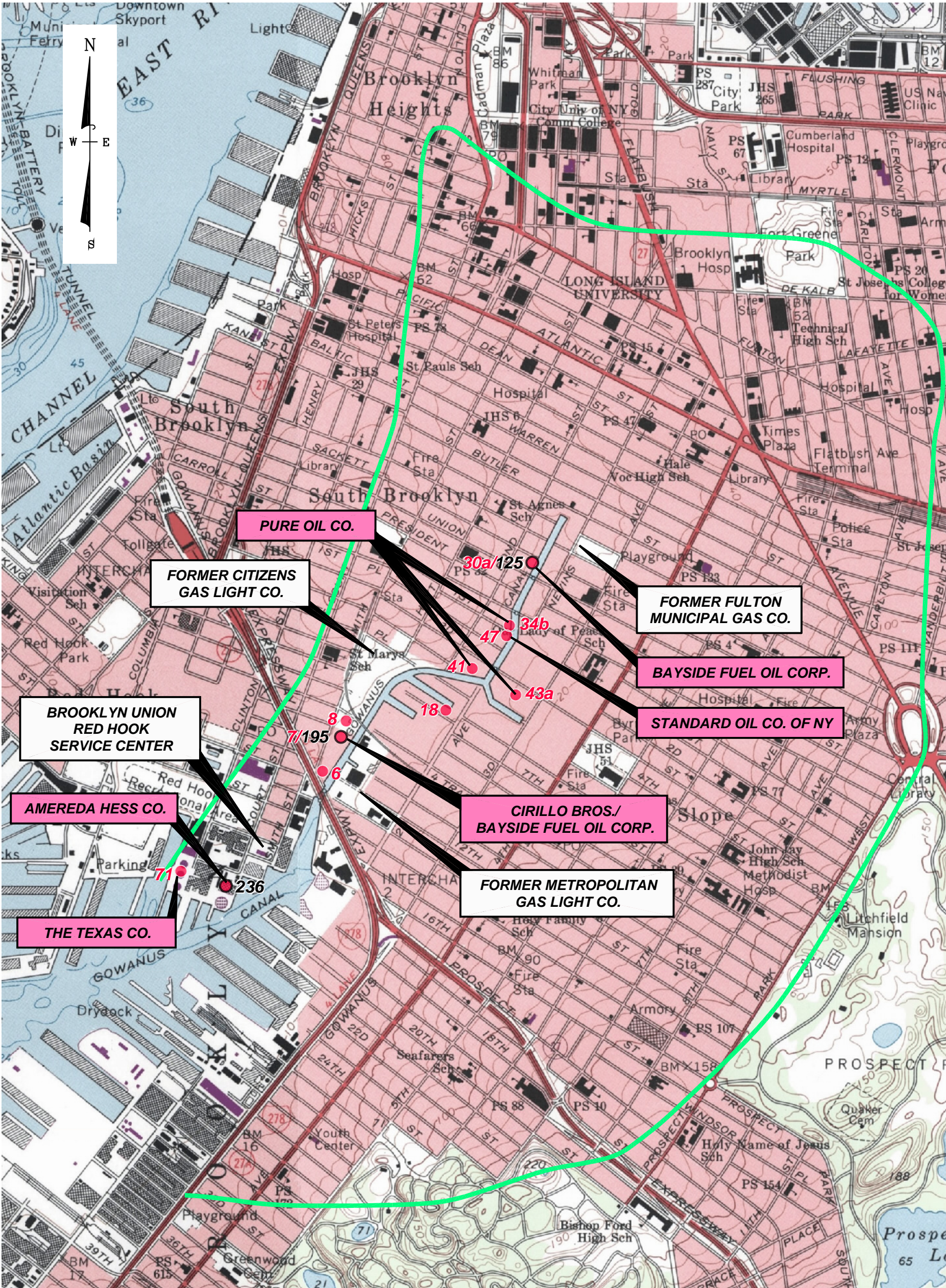
**SOURCES:**  
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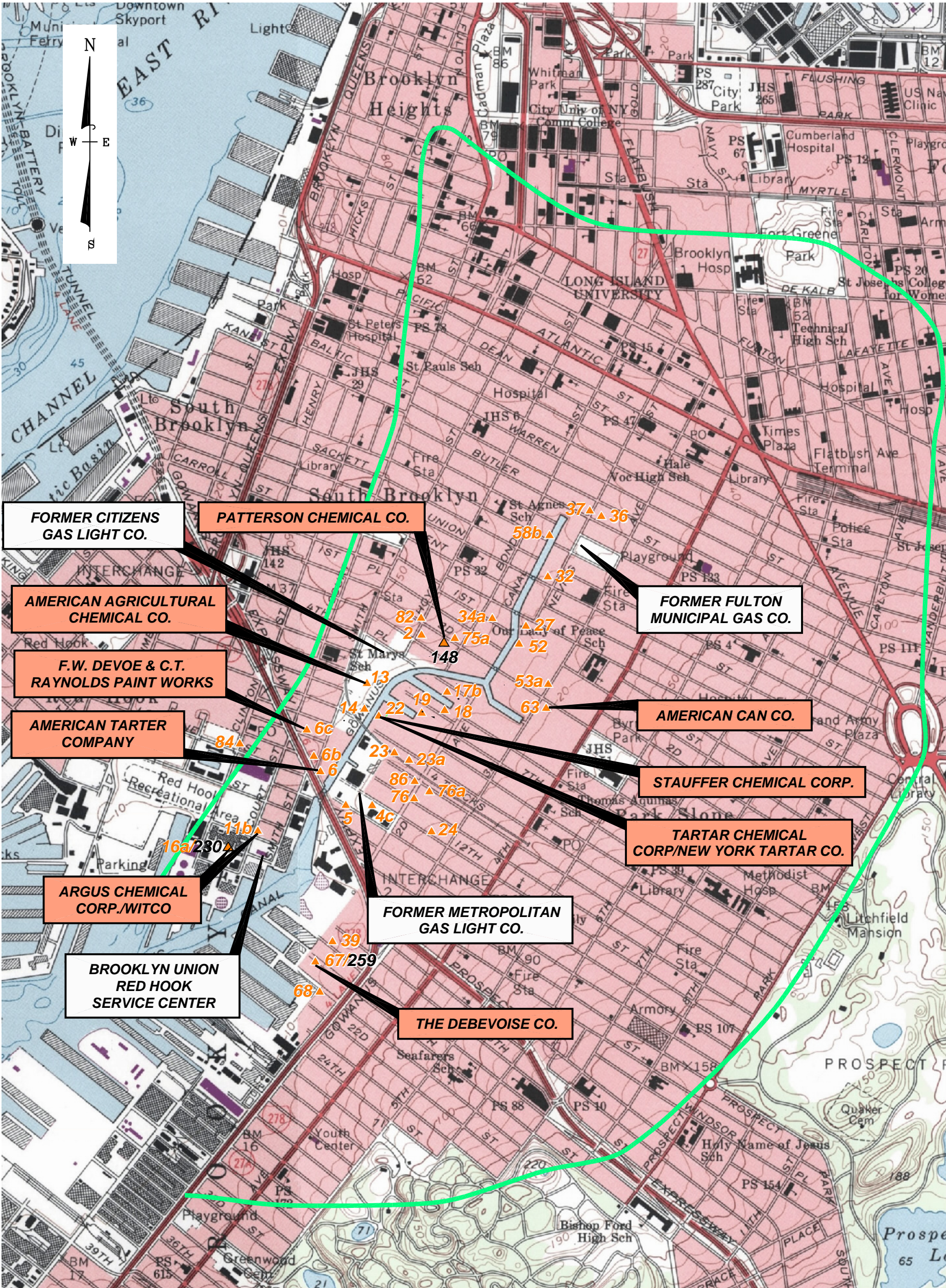


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**FIGURE 8  
HISTORIC/RECENT ASPHALT AND  
COAL TAR PRODUCT COMPANIES**

GOWANUS CANAL  
KEYSPAN ENERGY  
BROOKLYN, NEW YORK

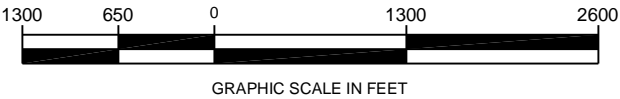





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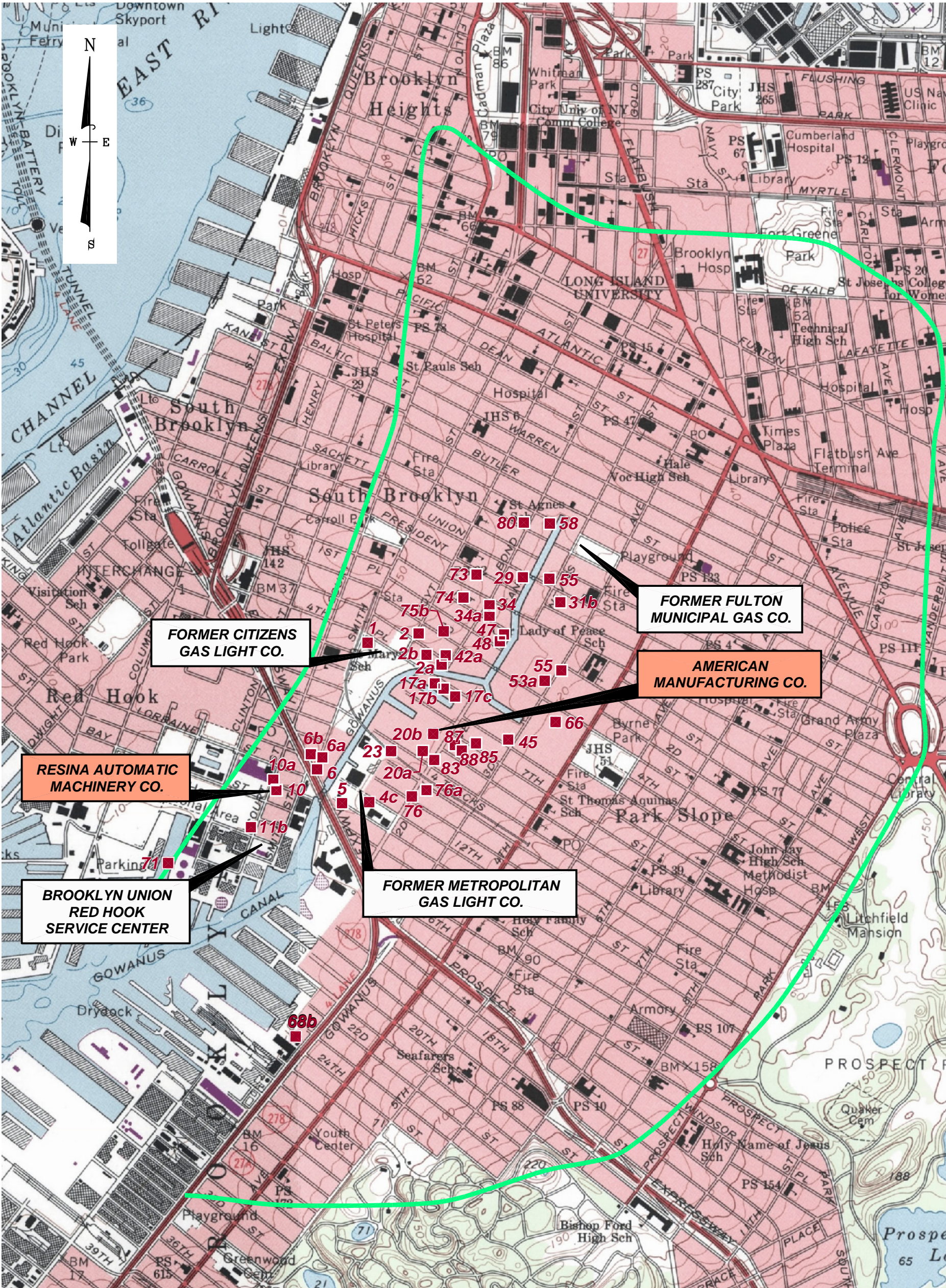
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ULLITZ, HUYO, ATLAS OF BROOKLYN BOROUGH OF THE CITY OF NEW YORK, 1898-1899.  
DRIPPS, M. MAP OF THE CITY OF BROOKLYN, 1869.



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**FIGURE 10**  
**HISTORIC/RECENT CHEMICAL, PAINT**  
**FERTILIZER AND PLASTIC MANUF.**

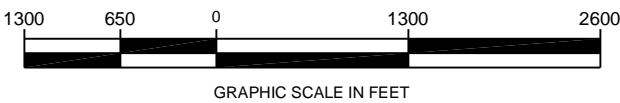
GOWANUS CANAL  
KEYSPAN ENERGY  
BROOKLYN, NEW YORK



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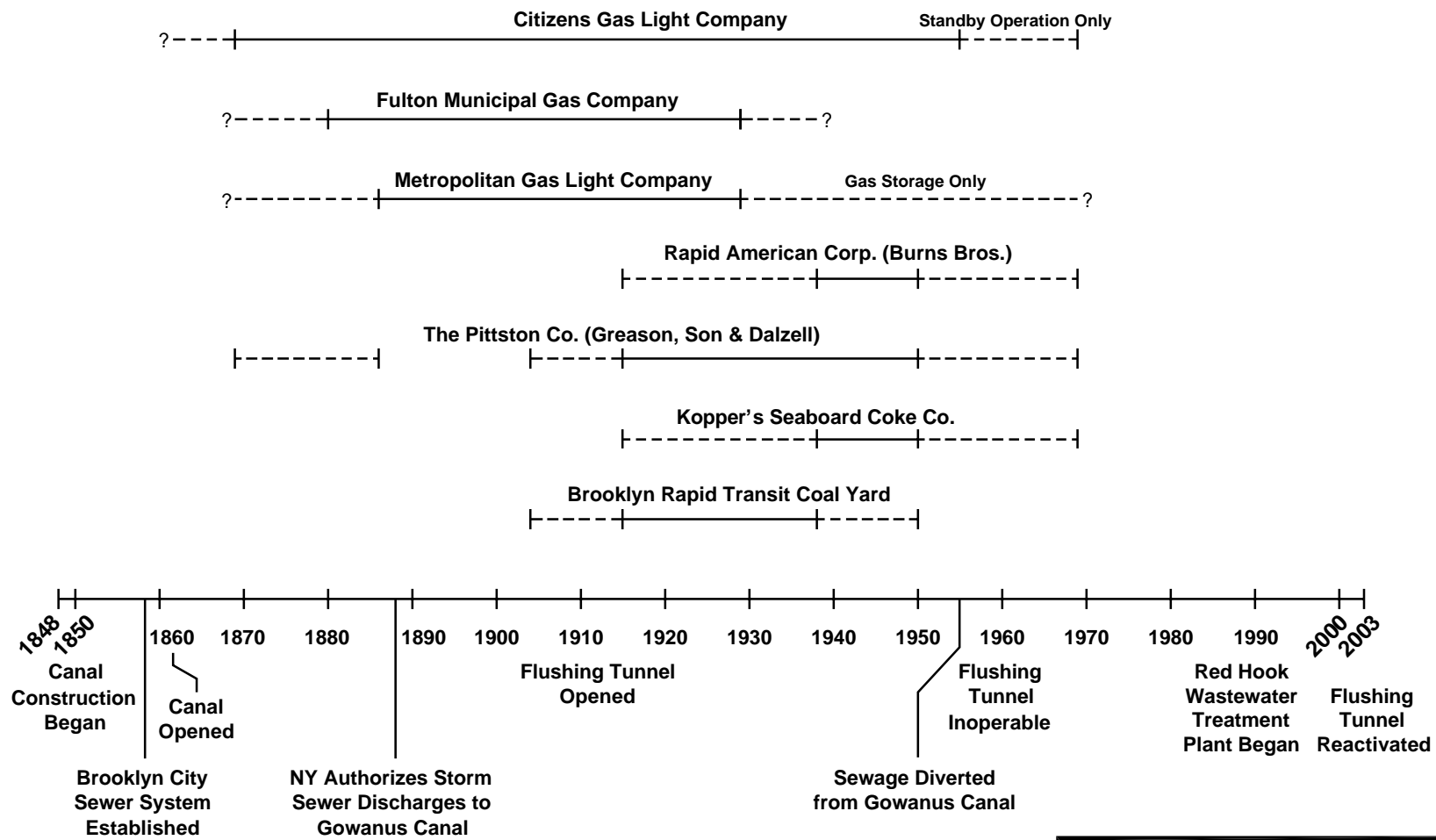
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DRIPPS, M. MAP OF THE CITY OF BROOKLYN. 1869.



**Φ GEI Consultants, Inc.**

**FIGURE 11  
HISTORIC AND RECENT  
MANUFACTURING FACILITIES**

GOWANUS CANAL  
KEYSPAN ENERGY  
BROOKLYN, NEW YORK



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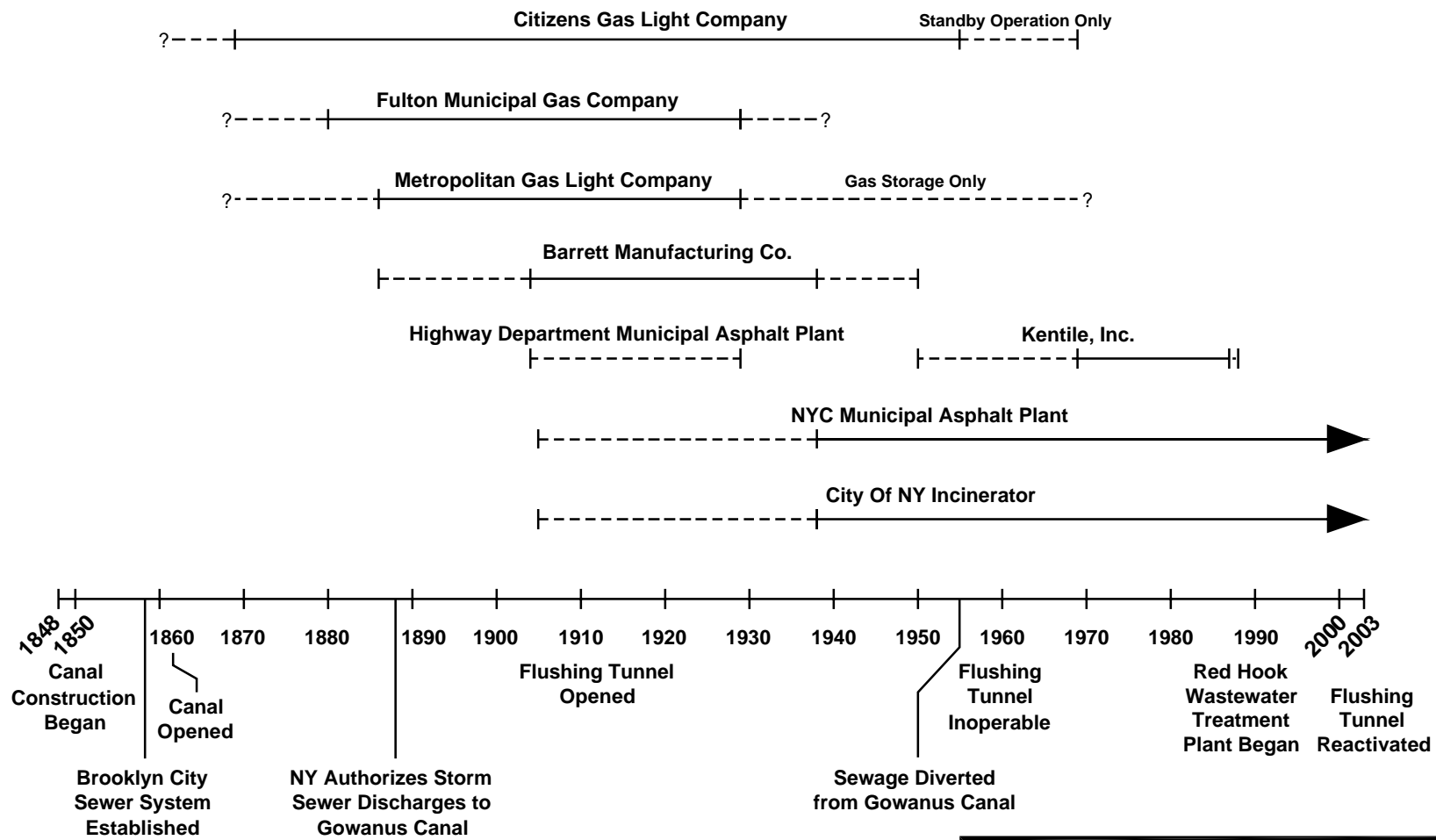
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## FIGURE 12 OPERATIONAL TIMELINE OF COAL YARDS ALONG THE GOWANUS CANAL

KEYSPAN ENERGY  
GOWANUS CANAL  
BROOKLYN, NEW YORK



# DRAFT

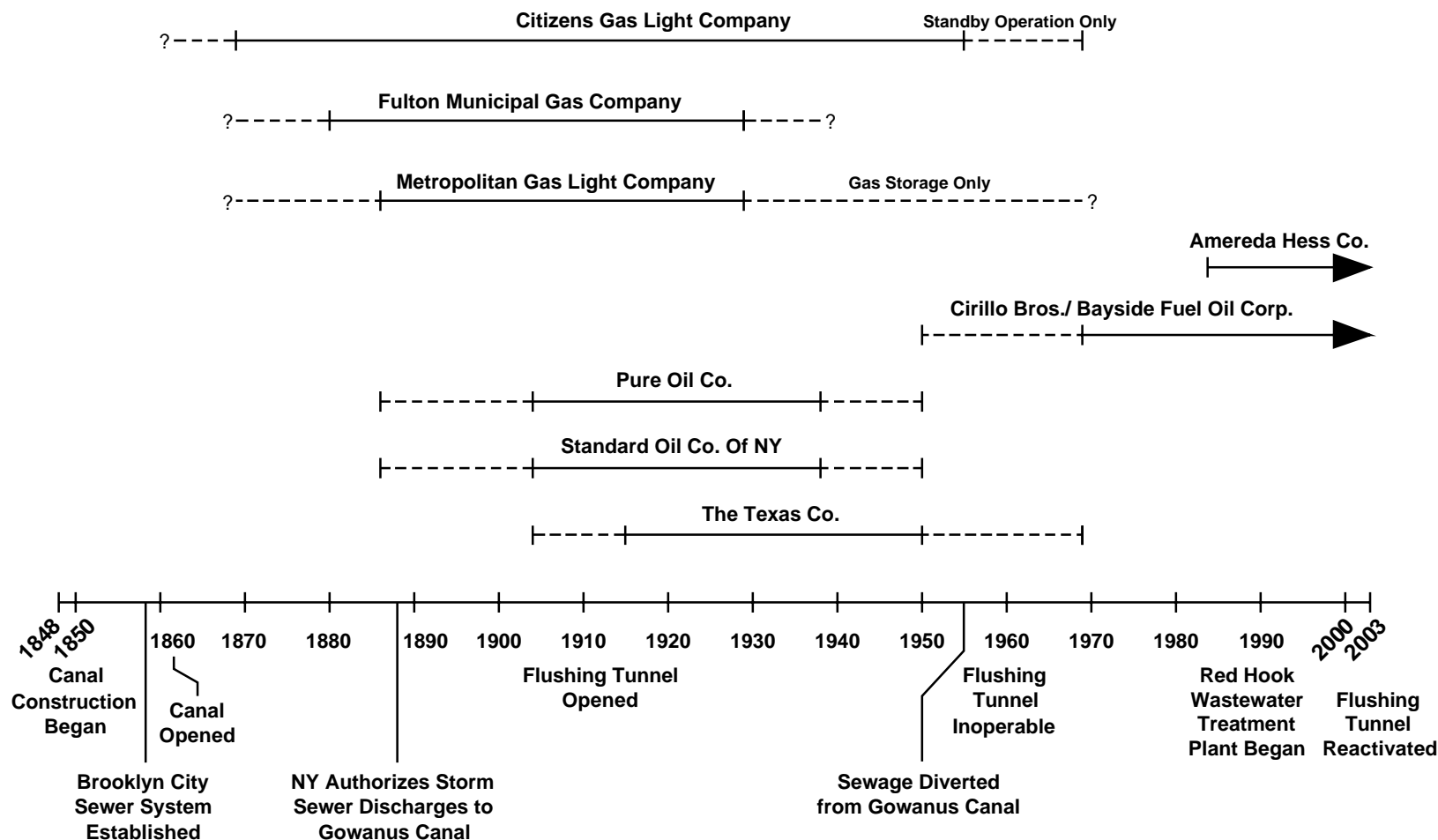
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**FIGURE 13  
OPERATIONAL TIMELINE OF ASPHALT  
PRODUCT AND REGULATING COMPANIES  
ALONG THE GOWANUS CANAL**

KEYSPAN ENERGY  
GOWANUS CANAL  
BROOKLYN, NEW YORK



# DRAFT

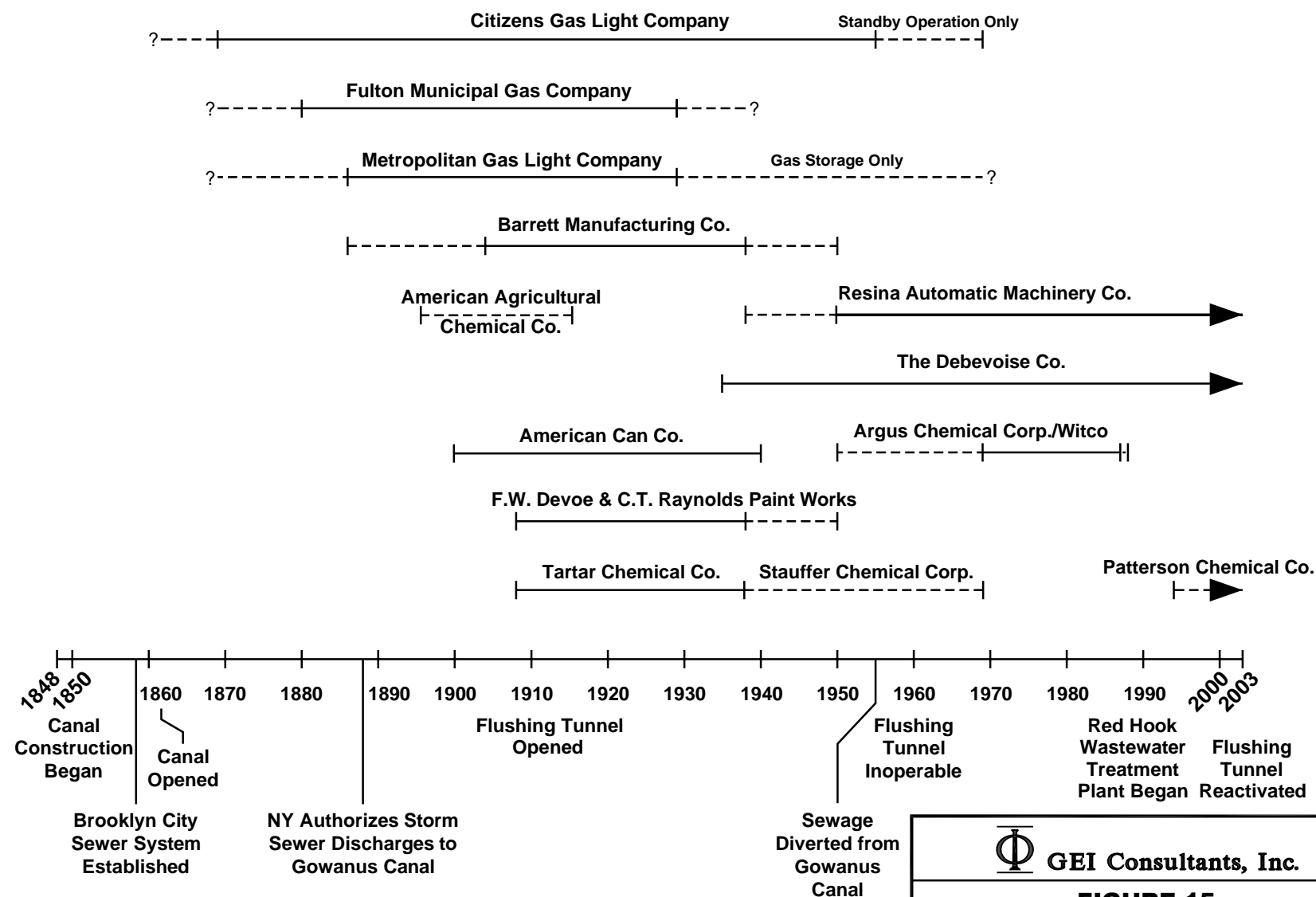
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ATTORNEY WORK PRODUCT PREPARED  
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**FIGURE 14**  
**OPERATIONAL TIMELINE OF**  
**OIL/PETROLEUM COMPANIES ALONG**  
**THE GOWANUS CANAL**

KEYSPAN ENERGY  
GOWANUS CANAL  
BROOKLYN, NEW YORK



# DRAFT

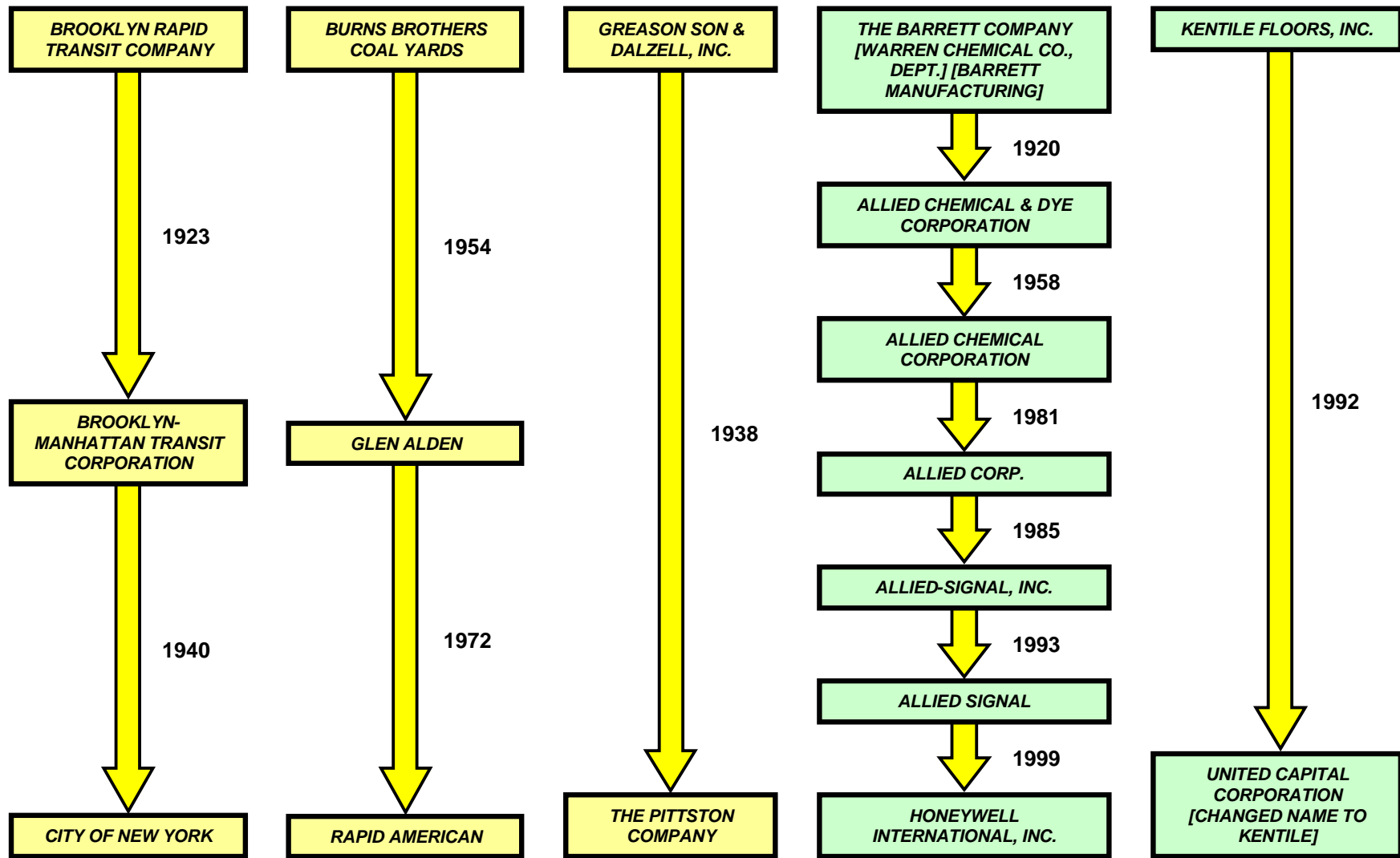
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ATTORNEY WORK PRODUCT PREPARED  
AT THE REQUEST OF COUNSEL.



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**FIGURE 15**  
**OPERATIONAL TIMELINE OF**  
**PAINT, CHEMICAL AND**  
**MANUFACTURING COMPANIES**  
**ALONG THE GOWANUS CANAL**

KEYSPAN ENERGY  
GOWANUS CANAL  
BROOKLYN, NEW YORK



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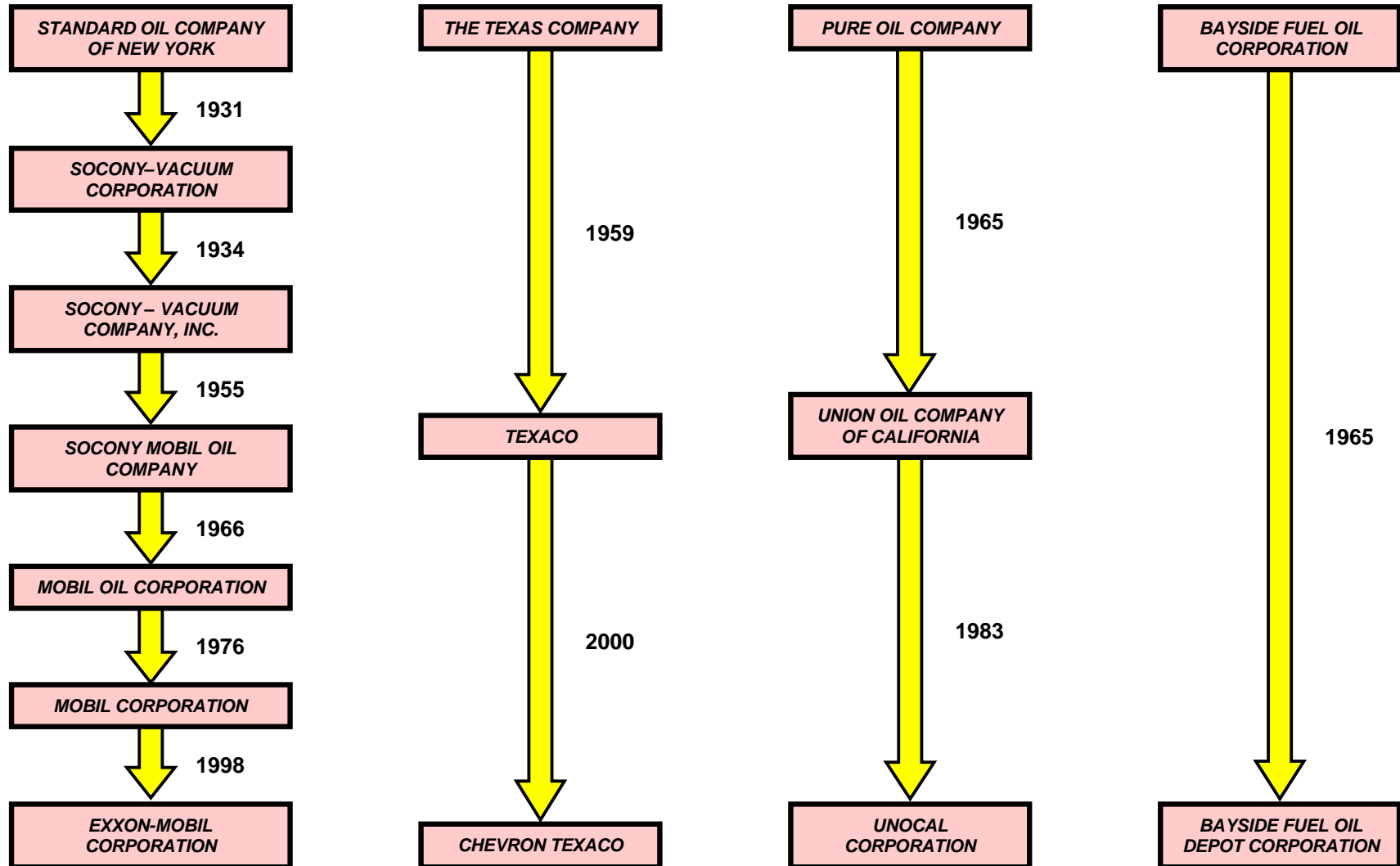
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ATTORNEY WORK PRODUCT PREPARED  
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GEI Consultants, Inc.

**FIGURE 16**  
**COAL YARDS, ASPHALT AND COAL TAR**  
**PRODUCT SUCCESSOR COMPANIES**

GOWANUS CANAL  
KEYSPAN ENERGY  
BROOKLYN, NEW YORK



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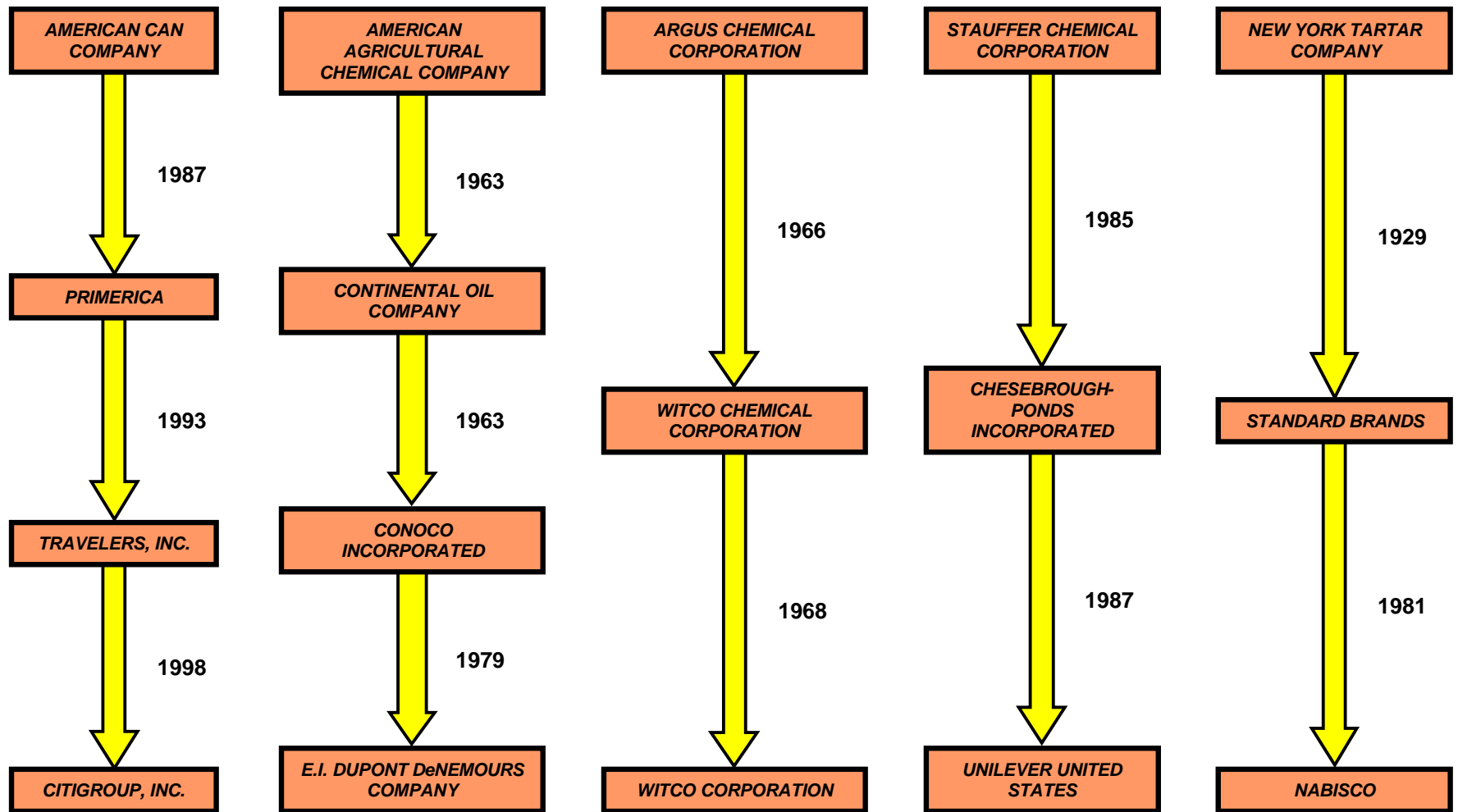
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**FIGURE 17**  
**OIL AND PETROLEUM SUCCESSOR**  
**COMPANIES**

GOWANUS CANAL  
KEYSPAN ENERGY  
BROOKLYN, NEW YORK



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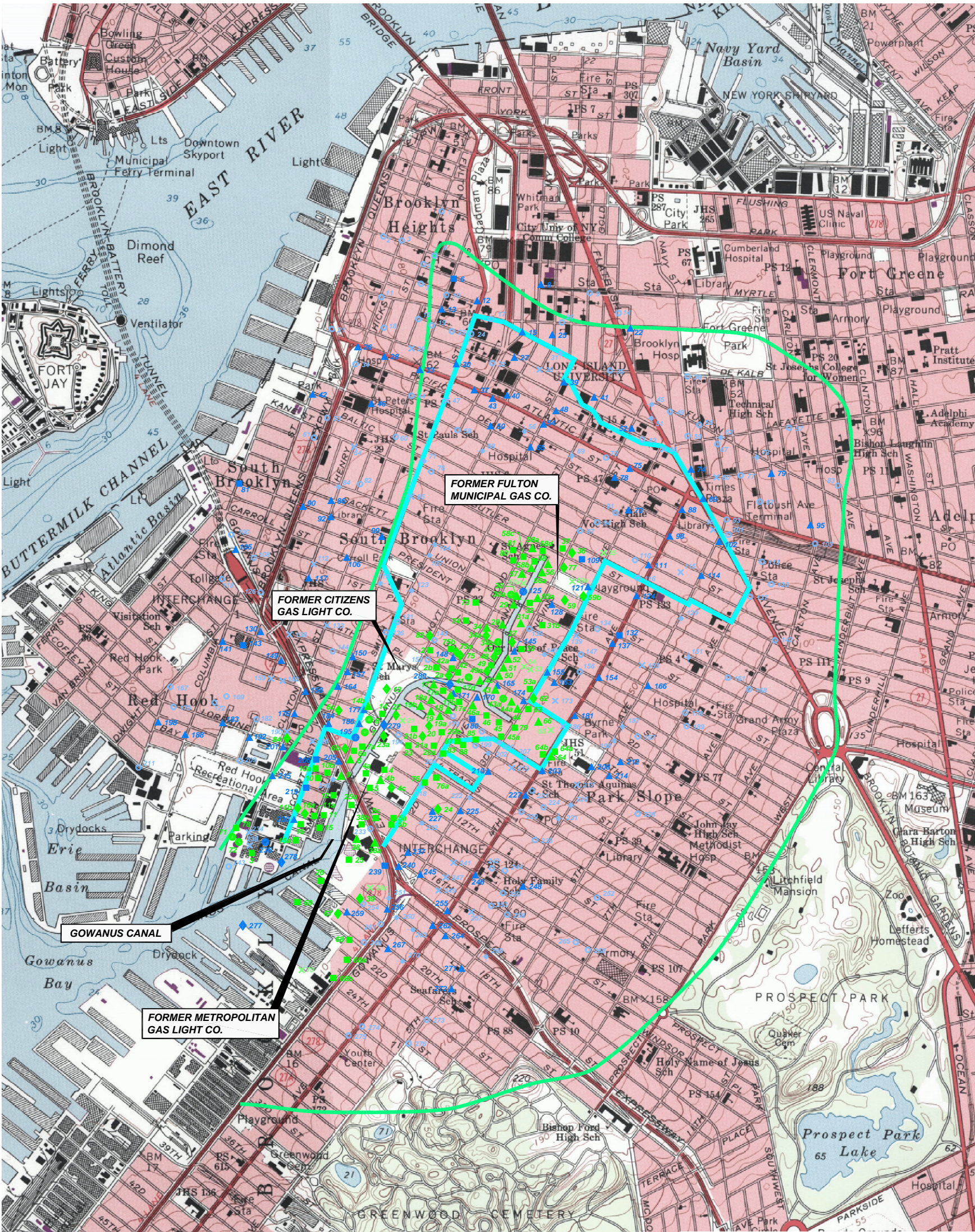
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**FIGURE 18**  
**CHEMICAL AND FERTILIZER**  
**MANUFACTURING SUCCESSOR COMPANIES**

GOWANUS CANAL  
KEYSPAN ENERGY  
BROOKLYN, NEW YORK

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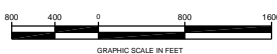
- ▲ 265 MULTI-LISTED SITES
- 6 TSD/CORRACTS/VCP/LQG
- 195 MAJOR OIL STORAGE
- ◆ NPDES/SPDES DISCHARGERS
- 1 UST/AST/LUST
- ⊕ 123 SQ GENERATORS
- ✕ 64 SPILLS

HISTORICAL

- ▲ 14b MULTI-USE SITES
- 7 PETROLEUM STORAGE
- ◆ 67 CHEMICAL MANUFACTURING/STORAGE
- 25 MANUFACTURING
- ✕ 21 COAL YARD

- APPROXIMATE GOWANUS DRAINAGE BASIN
- GOWANUS CANAL SEWER DRAINAGE AREA (1857 TO MID-1950S)

SOURCES:  
U.S.G.S. TOPOGRAPHIC MAP, BROOKLYN, N.Y., PHOTOREVISED 1979  
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GEI Consultants, Inc.

PREPARED FOR  
KEYSPAN ENERGY  
GOWANUS CANAL  
BROOKLYN, NEW YORK

AREAS OF POTENTIAL ENVIRONMENTAL CONCERN

SCALE: 1"=1000'  
DATE: FEB 2003

DRN BY: PHH

PLATE 1